

CAI
IAB1
-1995
C51

CONSERVING CANADA'S WILDLIFE HABITATS: 1990 TO 1995

A Report on Canadian Wildlife Service Accomplishments
for 1990 to 1993 and Major Plans for 1994-1995

compiled by
E. Zurbrigg



TECHNICAL REPORT SERIES No. 226
Headquarters 1995
Canadian Wildlife Service



Environment
Canada

Environnement
Canada

Canadian Wildlife
Service

Service canadien
de la faune

Canada

3 1761 11556040 1

TECHNICAL REPORT SERIES CANADIAN WILDLIFE SERVICE

This series of reports, established in 1986, contains technical and scientific information from projects of the Canadian Wildlife Service. The reports are intended to make available material that either is of interest to a limited audience or is too extensive to be accommodated in scientific journals or in existing CWS series.

Demand for these Technical Reports is usually confined to specialists in the fields concerned. Consequently, they are produced regionally and in small quantities; they can be obtained only from the address given on the back of the title page. However, they are numbered nationally. The recommended citation appears on the title page.

Technical Reports are available in CWS libraries and are listed with the DOBIS system in major scientific libraries across Canada. They are printed in the official language chosen by the author to meet the language preference of the likely audience. **To determine whether there is significant demand for making the reports available in the second official language, CWS invites users to specify their official language preference. Requests for Technical Reports in the second official language should be sent to the address on the back of the title page.**

SÉRIE DE RAPPORTS TECHNIQUES DU SERVICE CANADIEN DE LA FAUNE

Cette série de rapports donnant des informations scientifiques et techniques sur les projets du Service canadien de la faune (SCF) a démarré en 1986. L'objet de ces rapports est de promouvoir la diffusion d'études s'adressant à un public restreint ou trop volumineuses pour paraître dans une revue scientifique ou l'une des séries du SCF.

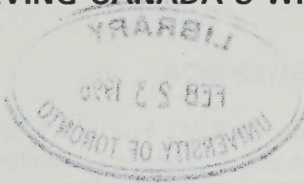
Ordinairement, seuls les spécialistes des sujets traités demandent ces rapports techniques. Ces documents ne sont donc produits qu'à l'échelon régional et en quantités limitées; ils ne peuvent être obtenus qu'à l'adresse figurant au dos de la page titre. Cependant, leur numérotage est effectué à l'échelle nationale. La citation recommandée apparaît à la page titre.

Ces rapports se trouvent dans les bibliothèques du SCF et figurent aussi dans les listes du système de référence DOBIS utilisé dans les principales bibliothèques scientifiques du Canada. Ils sont publiés dans la langue officielle choisie par l'auteur en fonction du public visé. **En vue de déterminer si la demande est suffisamment importante pour produire ces rapports dans la deuxième langue officielle, le SCF invite les usagers à lui indiquer leur langue officielle préférée. Il faut envoyer les demandes de rapports techniques dans la deuxième langue officielle à l'adresse indiquée au verso de la page titre.**

Cover illustration is by R.W. Butler and may not be used for any other purpose without the artist's written permission.

L'illustration de la couverture est une œuvre de R.W. Butler. Elle ne peut dans aucun cas être utilisée sans avoir obtenu préalablement la permission écrite de l'auteur.

CONSERVING CANADA'S WILDLIFE HABITATS: 1990 TO 1995



A Report on Canadian Wildlife Service
Accomplishments for 1990 to 1993
and Major Plans for 1994-1995

compiled by
E. Zurbrigg

TECHNICAL REPORT SERIES No. 226
Headquarters 1995
Canadian Wildlife Service

This publication may be cited as:

Zurbrigg, E. (Compiler). 1995. Conserving Canada's
Wildlife Habitats: 1990 to 1995.
Technical Report No. 226, Canadian Wildlife
Service, Headquarters.

Issued under the authority of the
Minister of the Environment
Canadian Wildlife Service



° Minister of Supply and Services Canada 1995
Catalogue No. CW69-5/226E
ISBN 0-662-23052-3
ISSN 0831-6481

Copies may be obtained from:

Water and Habitat Conservation Branch
Canadian Wildlife Service
Environment Canada
Ottawa, Ontario
K1A 0H3

Également disponible en français sous le titre: *La conservation des habitats fauniques du Canada: de 1990 à 1995.*

AWY 7923

ACKNOWLEDGEMENTS

The contributions of all those CWS Regional and Headquarters staff who provided information or reviewed portions of this report are gratefully acknowledged. Particular thanks go to the Regional coordinators -- G. Townsend, P. Gregoire, V. Johnston, G. McCullough, Y. Mercier and A. Smith. Others who provided additional information or reviews included M. Dunn, R. McKelvey, Don Russell, C. Roger, T. Coleman, P. Taylor, S. Wynarski, D. Stewart, N. Patterson, C. Drolet, L. Bélanger, K. Marshall, B. MacNeil, L. Maltby and S. Nadeau.

Mr. Sandy Lewis of C.A. (Sandy) Lewis Consulting provided advice and assistance in preparing the report.

SUMMARY

This report presents recent CWS accomplishments and some near-term plans for the wildlife habitat conservation program across Canada. It provides information not only on CWS initiatives for protected areas, but also the broad array of partnership activities outside protected areas through which CWS promotes conservation-friendly land-use practices across the Canadian landscape.

Information for this report was provided by CWS Regional and Headquarters units.

The report is divided into three parts:

Part A presents some accomplishments of the Canadian Wildlife Service in implementing the 1990 document "Habitat Conservation: Canadian Wildlife Service Strategies for the 1990s". Reporting information covers the years 1990, 1991 and 1992.

Part B presents CWS habitat accomplishments for 1993, based on implementation of the 1992 document "An Action Plan for Wildlife Habitat Conservation: Canadian Wildlife Service".

Part C presents some major plans for the 1994-95 period, outlining how CWS plans to further implement the Action Plan for Habitat.

RÉSUMÉ

Ce rapport présente de la documentation sur les dernières réalisations du SCF et certains plans à court terme pour les programmes de conservation des habitats fauniques. Il ne parle pas seulement des initiatives du SCF concernant les aires protégées, mais aussi de toute la gamme d'activités en partenariats, à part des aires protégées, là où le SCF préconise des pratiques d'utilisation des terres qui favorisent la conservation dans tout le paysage canadien.

L'information pour ce rapport a été fournie par des entités des régions et de l'administration centrale du SCF.

Le rapport se divise en trois parties:

La partie "A" présente certaines réalisations du Service canadien de la faune dans le cadre de la mise en oeuvre du document de 1990, «Conservation des habitats : Service canadien de la faune; Stratégies pour les années 1990». L'information qu'on y trouve couvre les années 1990, 1991 et 1992.

La partie "B" parle des réalisations du SCF concernant les habitats en 1993, en vertu du document de 1992, «Un plan d'action pour la conservation des habitats fauniques : Service canadien de la faune».

La partie "C" fait voir quelques plans principaux pour la période de 1994-1995 et donne une idée de la façon dont le SCF prévoit continuer la mise en oeuvre du Plan d'action pour les habitats.

CONTENTS

Acknowledgements.....	iii
Summary/Résumé.....	iv
Contents.....	vi
Introduction.....	1
Methods.....	3
Part A: 1990 through 1992 Accomplishments.....	5
Part B: 1993 Accomplishments.....	25
Part C: 1994-95 Major Plans.....	55

INTRODUCTION

A. The Canadian Wildlife Service - Wildlife Habitat Conservation Program

The protection and wise stewardship of Canada's wildlife habitat, landscapes and ecosystems is recognized as key to sustaining biodiversity and overall environmental health (Green Plan 1990; A Wildlife Policy for Canada 1990). Wildlife and wildlife habitat conservation are a joint responsibility, shared between levels of government and non-government interests.

Environment Canada's Canadian Wildlife Service (CWS) contributes to the conservation and protection of the Canadian and global environments through programs aimed at wildlife, particularly migratory birds, and their habitats. In cooperation with the provinces and territories, the CWS participates in programs for the recovery of endangered species and their habitats.

The CWS wildlife habitat conservation program is multi-faceted. Two main components involve establishing protected areas for nationally/internationally significant wildlife habitats, and cooperating with others in the maintenance of wildlife habitat across the Canadian landscapes and seascapes. The program operates both nationally and internationally. The program is based on partnership arrangements which enable CWS to work in a cross-sectoral fashion towards the integration of environmental considerations into national and international socio-economic policies that result in the advancement of sustainable development.

Protected Areas - CWS activities stress the identification, protection and ongoing management of nationally/internationally significant habitats. CWS establishes two types of protected areas. Pursuant to the *Canada Wildlife Act*, the CWS establishes National Wildlife Areas for the purposes of wildlife conservation, research or interpretation. Under the *Migratory Birds Convention Act*, the CWS establishes and manages Migratory Bird Sanctuaries to provide long-term protection for migratory bird populations and their habitats.

Landscape Maintenance - The CWS undertakes a number of activities aimed at conserving wildlife habitat outside of protected areas, including: participation in federal and provincial environmental assessment activities and review of land-use permits; promotion of conservation-friendly policies and land-use practices (e.g. for forestry, agriculture); administration of stewardship programs for private lands as, for example, through the North American Waterfowl Management Plan; and the promotion of public education and participation.

International CWS Habitat Roles - The CWS performs a leadership role for international habitat programs, for example by: facilitating the designation of Canadian wetlands of international importance under the Ramsar Convention; directing habitat research projects under the Latin American Program; promoting the designation of critical shorebird habitats through the Western Hemisphere Shorebird Reserve Network; and actively participating in the implementation of the Agreement on the Conservation of Arctic Flora and Fauna, and Canada's International Model Forest Program.

B. Habitat Strategies and Action Plan

In 1990, the CWS developed a document entitled "Habitat Conservation: Canadian Wildlife Service Strategies for the 1990s". The document outlined CWS leadership and obligations for wildlife habitat at the federal level through a series of objectives and corresponding strategies. In late 1992, this Strategies document was updated and re-titled as "An Action Plan for Wildlife Habitat Conservation: Canadian Wildlife Service". This Action Plan was presented in November 1992 to the Tri-Council Ministers' meeting on protected areas and biodiversity. Through the actions outlined in the Action Plan, the CWS contributes to Canada's commitments for protected areas and ecosystem

and biodiversity conservation.

The overall goal of the CWS habitat conservation program, as set out in the Habitat Strategies and Action Plan documents, is that "Canada's wildlife habitat should be maintained or enhanced to sustain all species indigenous to (i.e. naturally occurring in) Canada".

To pursue this goal, CWS set out seven objectives with sub-objectives:

- maintain wildlife habitat
 - . network of National Wildlife Areas
 - . network of Migratory Bird Sanctuaries
 - . key habitats within National Parks
 - . habitat on other federal lands
 - . habitat on northern lands
 - . habitat on provincial Crown lands
 - . habitat on municipal and private lands
 - . marine wildlife habitat
 - . habitat for endangered species
- support NGOs regarding habitat
- minimize environmental impacts
- maintain/enhance environmental quality
- conserve habitats internationally
- conduct science to support conservation
- promote public awareness

The Action Plan contains a series of strategies corresponding to the objectives/sub-objectives.

C. The Need for a National Report

The following report responds to a number of client needs. It was anticipated that there could be a further meeting of Tri- or Multi-Council Ministers related to biodiversity and protected areas. Such a meeting would necessitate an accounting by the CWS of its progress in implementing its "Action Plan for Wildlife Habitat Conservation" which had been presented at the 1992 Tri-Council meeting. As well, it was timely to review CWS accomplishments towards Green Plan commitments related to habitat -- e.g. the Federal Policy on Wetland Conservation, the 12% protected areas initiative, the Pacific Coast Joint Venture and others -- and towards broader Government objectives such as sustainable development. Furthermore, a detailed national reporting of CWS habitat accomplishments would serve for information-sharing purposes between CWS habitat staff in the Regional offices and with Headquarters.

In late 1993/early 1994, CWS prepared the following national report on its recent accomplishments and near-term plans for wildlife habitat conservation, based on its implementation of the "Habitat Conservation: Strategies" and "Action Plan for Wildlife Habitat Conservation" documents. It provides a snapshot of CWS habitat program activities and partnerships across Canada. This report is intended for use within CWS, and to provide detailed information on CWS activities in wildlife habitat conservation for other interested readers.

METHODS

Information for this report was supplied by CWS Regions and Headquarters units in late 1993 to early 1994. The basis for reporting was the 1990 document "Habitat Conservation: Canadian Wildlife Service Strategies for the 1990s" and the 1992 "An Action Plan for Wildlife Habitat Conservation: Canadian Wildlife Service".

Information was compiled on work accomplished, underway or proposed under the various CWS Strategy statements contained in the Habitat Strategies and Action Plan documents. (Note that Strategy statements are identical in the two documents.) Information was separated into three parts:

Part A : accomplishments for 1990 through 1992

Part B : major accomplishments in 1993

Part C : major plans for 1994-95

Information was further organized under each Strategy according to the responsibility centre (Regional and Headquarters units) that reported the information.

A listing of CWS reports on habitat-related topics was included as an annex to the Part B - 1993 and Part C - 1994-95 information.

Reporting effort concentrated on the 1993 accomplishments and the 1994-95 plans. Only available information was used for the 1990 - 1992 reporting, as an example of accomplishments; no effort was made to fill gaps in the information.

Note that the strategies and actions outlined in the Habitat Strategies and Action Plan documents were not "required" elements for all Regions and Headquarters to implement, but rather were intended as a guide to potential CWS actions in habitat conservation. Results should therefore show differences in effort between Regions and with Headquarters, since some strategies will be favoured over others according to the needs of the program at a given time.

This page is
intentionally left blank

RESULTS

PART A

1990 through 1992 Accomplishments

*in implementing
"Habitat Conservation: Canadian Wildlife Service
Strategies for the 1990s"*

GOAL I:	To maintain wildlife habitat throughout Canada in sufficient quantity and quality to support desired and sustainable wildlife population levels.
SUB-GOAL I:	To maintain and/or enhance wildlife habitat on federal lands.
Strategy 1.1	CWS will establish and maintain key habitats in a national network of National Wildlife Areas.

Pacific and Yukon Region

- Through the land claim settlement, participated in the establishment of the Old Crow Special Management Area.

Western and Northern Region

- Worked with the Province of Saskatchewan to formally establish the Last Mountain Lake MBS as a national wildlife area. As part of an agreement, the Province transferred land to Canada to become part of the national wildlife area (1992).
- Achieved signing of a DOE-DND memorandum of understanding, for the establishment of the Canadian Forces Base Suffield National Wildlife Area (March 1992). The NWA will encompass 42,000 hectares. It is a unique prairie ecosystem which includes the Middle Sand Hills, native prairie representative of the dry mixed grassland ecoregion and riparian areas along the South Saskatchewan River.

Ontario Region

- Ongoing management of existing NWAs.

Quebec Region

- An agreement with Transport Canada was signed to obtain the transfer or management rights of almost 700 hectares of island territory (priority habitat) between Montreal and Sorel along the St. Lawrence River.
- As part of the St. Lawrence Action Plan, a new wildlife reserve was created at Avelle, Wight and Hiam islands in Lac des Deux Montagnes.
- Volunteers worked in collaboration with CWS in the management of six of the eight NWAs in Quebec.

Atlantic Region

- Updated resource inventory data at Margaree Island, Portobello, Tintamarre and at Cape Jourimain national wildlife areas.
- Completed an upland habitat management demonstration project at Shepody, Tintamarre and Wallace Bay national wildlife areas, with funding secured from the Ruffed Grouse Society of Canada and the Shepody Fish and Game Association.
- Developed visitor facility and trail at Wallace Bay NWA in cooperation with the Wallace Area Development Association.

SUB-GOAL I: To maintain and/or enhance wildlife habitat on federal lands.

Strategy 1.2: CWS will establish and maintain a network of Migratory Bird Sanctuaries.

Western and Northern Region

- Achieved the formal designation of Prince Leopold Island (50,400 ha) in the NWT as a Migratory Bird Sanctuary (Feb. 1992). A management plan for the area is being drafted and will be circulated for comment.

Quebec Region

- Starting in 1988, improved the enforcement regime for some of the migratory bird sanctuaries located on the Quebec North Shore, with measurable effects on the nesting population of seabirds. This included the Wolf Bay, Fog Island, and St-Mary's Islands sanctuaries, as well as the Watshishou MBS protected in collaboration with Parks Canada. Additional ad hoc efforts were made relative to other sanctuaries where hunting pressure necessitated it.

Atlantic Region

- Established new Migratory Bird Sanctuaries at Shepherd Island (16 ha) and Île aux Cânes (Green Island) (150 ha), Newfoundland (June 1991).

SUB-GOAL I: To maintain and/or enhance wildlife habitat on federal lands.

Strategy 1.3: CWS will actively seek the cooperation of the Canadian Parks Service to ensure the continued maintenance of key habitats within National Parks.

Pacific and Yukon Region

- With the cooperation and support of Ivvavik National Park, conducted research to document important habitats for breeding migratory birds on the Yukon Coast Plain. (June 1992).
- Initiated and helped fund work on "habitat dependency groups" in Mount Revelstoke National Park. (1992). These are groups of migratory birds that focus on similar habitats.
- Assessed feasibility of permanent marine ecosystems monitoring site in Pacific Rim National Park. (1992).

Western and Northern Region

- Signed an MOU in 1992 regarding the future protection of and research into migratory bird populations in Bylot Island Bird Sanctuary, which will become part of North Baffin National Park.

Atlantic Region

- Continued research and monitoring of Common Loons breeding at Kejimikujik National Park.
- Continued liaison with Parks staff concerning the protection of Piping Plover and Common Tern nesting areas.

- Participated with the Canadian Parks Service representative and others on a Federal Protected Areas Working Group and the Atlantic Canada Tern Working Group.

Headquarters

- Participated in a departmental protected areas working group (including Canadian Parks Service), which was established in 1992, to share information and support co-operative efforts towards federal protected area programs. In particular, the working group was tasked with the preparations for the Tri-Council Ministers meeting on Biodiversity and Protected Areas, which brought together ministers of wildlife, parks and environment in November 1992.
- Participated with the Canadian Parks Service on their Region 38 re selection of representative area for a national park. (ongoing)
- With the Canadian Parks Service, jointly developed departmental responses to WWF's Endangered Spaces campaign (1990, 1991, 1992).

SUB-GOAL I: To maintain and/or enhance wildlife habitat on federal lands.

Strategy 1.4: CWS will actively promote the protection, maintenance, enhancement and management of wildlife habitat on other federal lands.

Pacific and Yukon Region

- Conducted research to document important habitats for breeding migratory birds on the Yukon Coast Plain.
- Reviewed forest management plan for DND lands to promote integrated planning including wildlife and endangered species values. (March 1992).
- Identified high priority DND lands in B.C. with possible high conservation values. (July 1992).
- Negotiated environmental design of golf course development on Sumas Indian Reserve. (September 1992).
- Established rapport with CFB Chilliwack for environmental and wildlife related advice and recommendations on DND properties (December 1992).

Western and Northern Region

- Developed a habitat memorandum of understanding with the Saskatchewan Federation of Indian Nations in 1992. DIAND proposed an Order-in-Council for this agreement.
- Continued progress on modifying range management practices on 800,000 hectares of PFRA- controlled land (Prairie Farm Rehabilitation Administration).

Ontario Region

- Achieved signing of a memorandum of agreement (April 1990) by Environment Canada and Correctional Services Canada, concerning conservation of wetlands at the Little Cataraqui River, Kingston, Ontario, on federal prison lands.

Quebec Region

- Started the graze-rotation demonstration project on Iles de Varennes in collaboration with Ducks Unlimited.
- Undertook a wildlife habitat improvement demonstration project on islands of the St-Lawrence Waterway near Montreal. Those islands, formed by dredging, have very low nesting potential for waterfowl.

Headquarters

- Produced an unpublished CWS report: "Habitat Conservation Opportunities on Federal Lands: Province of British Columbia" (Apr 1990). This report identified federal properties over 5 hectares in size.
- Facilitated the announcement of the Federal Policy on Wetland Conservation in March 1992. This policy is designed to ensure that all federal departments and agencies consider wetland concerns in their decision-making. Published and distributed a Wetland Evaluation Guide (1992) and No Net Loss (1992) document.

SUB-GOAL 2: To maintain or enhance wildlife habitat on northern lands, i.e. lands in Yukon and the Northwest Territories.

Strategy 2: CWS will contribute to the maintenance and/or enhancement of wildlife habitat on northern lands.

Note: refer to Strategy 1.1 NWAs and Strategy 1.2 MBSSs, for new initiatives in the north regarding NWAs and MBSSs.

Pacific and Yukon Region

- Produced the Yukon Waterfowl Management Plan, which highlights the most important waterfowl habitat areas in the Yukon and identifies those in most immediate need of protection. (Spring 1991).

Western and Northern Region

- See Strategy 1.2 re establishment of Prince Leopold Island Migratory Bird Sanctuary, NWT, in February, 1992.

SUB-GOAL 3: To support the maintenance and/or enhancement of wildlife habitat on provincial Crown lands.

Strategy 3: CWS will contribute to the maintenance and/or enhancement of wildlife habitats on provincial Crown lands.

Pacific and Yukon Region

- Provided annual grants and management direction to the provincial Creston Valley Wildlife Management Area. (1990, 1991, 1992)
- Commenced data gathering on Important Areas (Habitats) map project of the Lower Fraser

Basin. (March 1992).

- . Provided technical advice to B.C. Crown Lands re numerous land use applications with potential to impact migratory bird habitat. (1991, 1992).
- . Participated in meetings of British Columbia Wildlife Lands Conservation Forum. (1991, 1992).
- . The Green Plan committed Canada to working with the Province of British Columbia, municipalities, First Nations, environmental and other special interest groups, industry and the public to develop a Fraser River Basin Management Program (1990). This resulted in the signing, in May 1992, of a federal/provincial/municipal agreement for the Fraser River. There are opportunities under this program for wildlife habitat initiatives (e.g. Greenfields).

Western and Northern Region

- . Through the NAWMP, Prairie Habitat Joint Venture, played a major role on provincial management boards and provided scientific expertise (since 1986, ongoing).

Quebec Region

- . Financially supported land acquisitions for the Quebec Department of Environment in order to designate the ecological area of Lac Saint-Paul (490 ha).

Headquarters

- . Developed a national wildlife habitat network proposal for the federal-provincial-territorial Wildlife Directors meeting in June 1992; wildlife directors chose to pursue habitat networking under existing federal-provincial bilateral arrangements and await further discussions under the auspices of the global Biodiversity Convention.
- . Developed a CWS priority sites list (July 1992) identifying significant wildlife habitats for discussion of protection options with the provinces and others.
- . Reviewed and provided advice for the development of provincial wetland policies: CWS reviewed Ontario (1990-92), Saskatchewan (1992) and Alberta (1992) drafts of provincial wetland policies, providing advice on policy content and implementation plans.
- . Provided ongoing advice to provincial governments, NGOs and the public on the loosestrife issue.

SUB-GOAL 4: To support the maintenance and/or enhancement of wildlife habitat on municipal and private lands.

Strategy 4: CWS will contribute to the maintenance and/or enhancement of wildlife habitat on municipal and private lands.

Pacific and Yukon Region

- . Funded Greenfields Program to plant winter cover crops on 825 ha in 1991 and 1100 ha in 1992 of private farmland in Delta and Surrey municipalities, for soil improvement and food for staging / wintering birds.

- Co-funded project with DU in Comox Valley to provide cover crops for wintering trumpeter swans. (September 1991).
- Protected 100 ha of Salmon River delta habitat by changing cattle grazing regimes on Neskonlith Indian and Adams Lake Band land at Salmon Arm, in partnership with DU and local nature society. (March 1993).
- Provided advice to Regional Districts (Greater Vancouver, Dewdney Alouette, Comox-Strathcona, etc) re zoning changes with potential to affect migratory bird habitat. (1991, 1992).
- Completed Boundary Bay Habitat Landscape Model by G&C agreement with DU. (1992).
- Initiated, promoted and participated in, with the towns of Parksville and Qualicum Beach, an annual Brant Festival. (April 1991, April 1992)

Western and Northern Region

- Published a landowners' guide to preserving and enhancing the native prairie grasslands. World Wildlife Fund (Canada) and NAWMP also contributed (1992).
- Participated in the implementation of the multi-partner Prairie Conservation Action Plan, and contributed to its 1992 annual report.
- Worked to reduce the damage of waterfowl on private landowners crops, as part of a five year agreement between Canada and the Western Provinces called the Waterfowl Crop Damage Prevention Program. The intent of this program is to reduce the conflict between waterfowl and prairie landowners. This would encourage the support of landowners and the general public toward wildlife habitat conservation initiatives, such as the North American Waterfowl Management Plan across the Prairies.

Ontario Region

- Initiated plans to develop, implement and manage the Wetlands-Woodlands-Wildlife program, a four-year, \$2.4 million program for Ontario, with Agriculture Canada funding, under the Canada-Ontario Agriculture Green Plan, signed in September 1992. The goal of the "WWW" program is to promote the adoption and/or development of sustainable practices and technologies to enhance long-term benefits to, and reduce conflicts between agriculture, wetlands, woodlands, fish and wildlife. The goal is addressed through two separate components: demonstration projects, and education and information transfer.
- Coordinated the development, with partners, of a draft strategic plan for wetlands of the Great Lakes Basin, to be finalized in 1993. The objective is to protect Canada's wetlands in the Great Lakes Basin for all their ecological, economic, social, aesthetic and cultural benefits.
- Provided advice on the design of habitat rehabilitation projects in Areas of Concern around the Great Lakes. (ongoing)

Quebec Region

- Participated in wildlife habitat protection projects with the Nature Conservancy of Canada in the St. Lawrence Action Plan.
- Since 1989, coordinated the implementation of the Eastern Habitat Joint Venture (part of

the NAWMP), in cooperation with Wildlife Habitat Canada and Quebec provincial partners including the Government of Quebec, and La Fondation de la faune du Quebec.

SUB-GOAL 5: To support the maintenance or enhancement of the productivity of marine wildlife habitats.

Strategy 5: CWS will contribute to the maintenance or enhancement of the productivity of marine wildlife habitats.

Pacific and Yukon Region

- . Published "Atlas of Pelagic Birds of Western Canada", by K.H. Morgan, K. Vermeer, R.W. McKelvey; CWS Occasional Paper Number 72. (1991).
- . Published "The ecology, status, and conservation of marine and shoreline birds on the west coast of Vancouver Island", Ed. by K. Vermeer, R. Butler, K. Morgan; CWS Occasional Paper Number 75. (1992).

Atlantic Region

- . Developed (1992) a draft concept plan for an International Seabird Reserve designation program.
- . Completed an Atlantic Region Gull Management Plan (1992).
- . Coordinated with Coast Guard at major winter exercise (Operation Cleanfeather) to address the annual problem of chronic oil spillage and high seabird/seaduck mortality in Placentia Bay Nfld. (1992).
- . Initiated a study on the effects of seaduck depredation on cultured mussels.
- . Completed study on the "missing" Phalaropes of the Bay of Fundy.
- . Contributed to the designation of Baccalieu Island and surrounding waters as a Provisional Ecological Reserve.

SUB-GOAL 6: To protect, maintain, enhance or rehabilitate habitat for endangered species under federal jurisdiction.

Strategy 6: CWS will contribute to the protection, maintenance, enhancement or rehabilitation of habitat for endangered species.

Pacific and Yukon Region

- . Completed National Recovery Plan for Marbled Murrelet. (October 1992).
- . Determined forest habitat use by Marbled Murrelet on the west coast of Vancouver Island.

Western and Northern Region

- . Led recovery teams (RENEW) for eight species and participated as a member of six other teams being led by provincial agencies.

- Recovery teams/plans past/present/future for: Whooping Crane, Piping Plover, Baird's Sparrow, Loggerhead Shrike, Peregrine Falcon, Ferruginous Hawk, Burrowing Owl, Polar Bear, Wood Bison, Peary Caribou, Woodland Caribou, Barren Ground Caribou, and Swift Fox.
- Renewed, in 1990, the 1985 MOU with the U.S. Fish and Wildlife Service, to provide guidelines to direct the recovery of the whooping crane.
- Protected an important nesting site of the endangered Piping Plover at the Hand Hills Ecological Reserve, by removing cattle from the area.
- Undertook a study of grassland habitats (Baird's Sparrow) at Last Mountain Lake. Emphasis is on the importance of conserving native prairie, management of pastures and haylands, and resolving conflicting policies in government regarding agriculture and wildlife.
- Initiated a new project to study seasonal movements of polar bears off the Labrador Coast (1991).
- Secured a cooperative agreement with provincial/territorial governments, first nations and others for the re-establishment and recovery of wood bison.
- Planned partnerships with forest companies, forest agencies, wildlife agencies and native groups for management of the woodland caribou.
- Fieldwork on the critical habitat needs of prairie falcons was conducted from 1989 to 1991. The prairie raptor project has adopted an ecosystem approach, integrating the habitat needs of prairie falcons into current and future land practices in southern Alberta.

Quebec Region

- Participated actively with the recovery teams for the following species: Peregrine Falcon, Piping Plover, Roseate Tern, Loggerhead Shrike, Harlequin Duck and Eastern Cougar.

Atlantic Region

- Finalized the Peregrine Falcon and Piping Plover Recovery Plans, now being implemented with recovery teams meeting annually.
- Drafted the Roseate Tern Recovery Plan.

GOAL II: To encourage and support the habitat conservation initiatives of Non-Government Organizations (NGOs).

Strategy II (7): CWS will actively encourage and support the habitat conservation initiatives of NGOs.

Pacific and Yukon Region

- Provided financial support to The Nature Trust to the start up phase of the Conservation Data Centre in B.C. to catalogue ecological information on habitats in B.C. (September 1991).
- Restored a 93 ha drained wetland, Duck Meadow, to its former natural state, in partnership

with DU, The Nature Trust, and B.C. Environment. (March 92).

- . Signed agreement with Ducks Unlimited to coordinate delivery of a five-year program of wetland habitat conservation and restoration in the interior portion of Fraser River basin. (April 1992).
- . Created a real estate options account with The Nature Trust of B.C. to purchase options on real property in B.C. coastal estuaries and to acquire habitat in the Fraser River Basin. (October 1992).
- . Helped fund project through Nature Trust to computerize Royal B.C. Museum existing passerine nest records including associated habitat types, to identify species habitat values and fine tune ecoprovince definition. (October 1992).
- . Signed agreement with Federation of B.C. Naturalists to incorporate "Lands For Nature" data relating to GVRD (Greater Vancouver Regional District) into CWS Wetlands Inventory data base. (March 1992).

Western and Northern Region

- . Made a conscious effort to get NGO's more interested in CWS northern habitat issues, and to keep them informed of this office's activities. An informal NGO\CWS network was established in December of 1992, and response to our habitat initiatives has been positive and enthusiastic.
- . Worked in partnership with the local community, with the outcome that the Redberry Lake Migratory Bird Sanctuary has become one of the eight key tourist attractions in Saskatchewan's Heart of Canada's "Old Northwest" tourism region.
- . Participated in a technical capacity in the recently formed Saskatchewan Watchable Wildlife Association (SWWA). The SWWA was formed in 1992 to promote the responsible development of ecotourism in the province and promote the establishment of a system of protected areas representing all recognized ecosystems in the province.
- . Initiated, in partnership with Wildlife Habitat Canada, a native prairie grassland restoration project under the Prairie Habitat Joint Venture of the North American Waterfowl Management Plan. The goal is to develop the technology to restore previously altered sites by seeding locally collected native grass and forb plant seeds. Last Mountain Lake National Wildlife Area is the location of this pilot study, the largest restoration project in the mixed-grass prairie ecoregion, and it is hoped that the partners in the NAWMP and private landowners wishing to restore Canada's native prairie habitats will be the beneficiaries of this scientific expertise.
- . Participated in the Saskatchewan Wetland Conservation Corporation's Habitat Diversity Project, which will secure habitat in the Quill Lakes area and Piping Plover habitat in 15 locations in Saskatchewan. The project provides benefits to waterfowl, non-game wildlife, shorebirds, threatened and endangered species, and other migratory birds.
- . The 5th year of a partnership agreement with the Saskatoon Natural History Society is yielding valuable data on bird numbers, distribution, habitat use and seasonal trends on selected federal wildlife areas in Saskatchewan.

Quebec Region

- . Worked with Wildlife Habitat Canada, La Fondation de la faune du Québec and the

Government of Québec as part of the Eastern Habitat Joint Venture (NAWMP) in Québec.

Atlantic Region

- . Entered into arrangements with the New Brunswick Federation of Naturalists for the development of an interpretation centre, and summer staffing of The Shorebird Centre at Mary's Point. (Shepody NWA)
- . Entered in arrangements with the Wallace Bay Development Association for the development of interpretative trails and signage at the Wallace Bay NWA.
- . Developed a working partnership with the Ruffed Grouse Society of Canada and local Fish & Game Associations for upland habitat enhancements (both funding and manpower) at three NWA's.
- . Cooperated with the Wallace Area Development Association and the Cumberland County Development Authority, to promote Wallace Bay and Chignecto NWAs as "significant" areas.

Headquarters

- . Attempted to influence WWF to expand the scope of its Endangered Spaces Campaign to include the full range of protected areas, as internationally recognized by the IUCN. WWF chose to consider only protected areas that are representative of Canada's natural regions, and to exclude Canada's protected areas which are established to protect critical wildlife habitat. (1992)
- . Contributed to the World Wildlife Fund's annual progress report on its Endangered Spaces Campaign, in support of WWF's goals. (1990, 1991, 1992)
- . Provided funding support to the Canadian Wildlife Federation's (CWF) Habitat 2000 Program, which is reviewed on an annual basis; and provides technical expertise for a Technical Review Committee with the CWF for its Habitat 2000 Program. This is a cooperative program which provides information and funding to schools and groups (e.g. Boy Scouts) to undertake habitat-related projects, with an emphasis on enhancement and creation.
- . Provided the national Secretariat to the Canadian Council on Ecological Areas, and funding support (ongoing).

GOAL III: To ensure that the environmental impacts on habitat from new initiatives and existing programs and policies are minimized.

Strategy III (8): CWS will contribute to the reduction of negative impacts on habitat from new initiatives and existing programs and policies.

Pacific and Yukon Region

- . Negotiated agreement with Transport Canada to achieve no net loss of migratory bird habitat function given expansion of Vancouver International Airport, the third runway project. (1991).
- . Prepared habitat protection criteria for golf course development affecting important

migratory bird wintering habitat in Fraser River delta.

- . Negotiated agreement with Small Craft Harbours (DFO) on compensation for habitat loss due to marina development at Comox-Courtenay. (1991).
- . Maintained participation in EC's regional integrated environmental assessment function and continued to play an important role in EC's regional EA strategy development, especially re mines, hydro and power transmission.

Atlantic Region

- . Contributed to the Environment Canada position on fenithrothion use in forest insect control in New Brunswick.

Headquarters

- . Continued (both HQ and Regions) to participate in federal and provincial assessments by providing specialist advice. Often this advice is with regard to project or program design, mitigation measures to reduce or eliminate adverse impacts and in the development of a monitoring program. (ongoing)
- . Participated on the Forest Round Table on Sustainable Development (1992).
- . Contributed to the development of the Canadian Forest Strategy for use at Rio (Earth Summit) (June 1992).

GOAL IV:	To ensure that the environmental quality of wildlife habitats is maintained or enhanced.
Strategy IV (9):	CWS will contribute to the maintenance or enhancement of the environmental quality of wildlife habitats, particularly for migratory birds.

Pacific and Yukon Region

- . Tracked dioxin and furan levels in the eggs of Great Blue Heron and cormorants nesting in the Strait of Georgia, B.C., and provided the first evidence of the efficacy of regulations controlling the level of these chemicals in pulp mill effluent. (1990, 1991, 1992).
- . Surveyed dioxin and furan levels in the eggs of osprey nesting in several major river basins in B.C. and showed elevated levels of these chemicals downstream of pulp mill operations. (1991, 1992).
- . Provided preliminary information on the uptake and loss of dioxins and furans in crabs in contaminated marine habitats. (1991, 1992).
- . In cooperation with UBC Department of Pharmaceutical Sciences, documented the impact of 2378-TCDD on developing Great Blue Heron and Double-crested Cormorant chicks. (1990).
- . Surveyed chlorinated hydrocarbon and mercury contamination in the eggs of Bald Eagles nesting in the lower Fraser Valley, the Strait of Georgia and Johnstone Strait. In cooperation with BC MOELP Wildlife Branch, Scott Paper and MacMillin Bloedel, undertook to survey bald eagle breeding success on the southern B.C. coast. (1990, 1991, 1992).

- . Continued long-term monitoring study of persistent contaminants in eggs of selected seabirds breeding on the B.C. coast. Surveyed the baseline level and effect of toxic heavy metals (Cd, Pb, Hg, Se) and trace elements in marine birds breeding on the B.C. coast. (1990).
- . Investigated the impact of poisoning by lead shot, agricultural pesticides and persistent contaminants on the bald eagle and other birds of prey in B.C. (1991, 1992).
- . Conducted an extensive survey of chlorinated hydrocarbon contamination of waterfowl wintering near pulp mills and other industrial sites on the B.C. coast.(1990, 1991, 1992).
- . Conducted study with U.S. Fish and Wildlife Service of the persistent contaminants in mink and river otter in the Columbia River basin. (1990, 1991).

Western and Northern Region

- . Spearheaded the formulation of a National Policy for limiting the use of lead shot for waterfowl hunting (1989).

Ontario Region

- . Continued to monitor levels of toxic contaminants and their effects on fish-eating birds and other wildlife around the Great Lakes (ongoing).

Atlantic Region

- . Contributed extensively to both the Regional and National State of the Environment (SOE) reports.
- . New non-toxic shot zones established in Atlantic Region. (waterfowl hunting)-(Sept 1992)

Headquarters

- . Continued work on the assessment of the levels, trends and sources of heavy metals, persistent organics and other priority pollutants in waterfowl and in selected indicator species in the St. Lawrence, Great Lakes, Arctic and other priority areas. (1991-92)
- . Participated in a nine-year study of toxic compounds and health and reproductive effects in St. Lawrence Beluga Whales. Results, to be published in 1993 (J. Great Lakes Res.).
- . Contributed to the development of the Canadian Forests Strategy for Rio (June 1992).
- . Contributed to the enhancement and interpretation (funding and technical support) of the National Conservation Areas Data Base (NCADB), maintained by State of the Environment Reporting Branch. Signed an agreement with the Nature Conservancy of Canada to obtain census surveys, monitoring and ecological data (1992-93).
- . Provided data for the SOER 1991 report -- The State of Canada's Environment -- e.g. for chapters on protected areas, wildlife, and habitat change.

GOAL V: To contribute to the conservation of wildlife habitat internationally.

Strategy V (10): CWS will contribute to the conservation of wildlife habitat internationally.

Pacific and Yukon Region

- . In cooperation with B.C., U.S. and Pacific coast states, announced proposal to NAWMP to form an international Pacific Coast Joint Venture, and released "Pacific Coast Habitat: A Prospectus". (September 1990).
- . Under the Latin American Program (LAP), provided training for staff from national and regional parks agencies in Colombia in the identification of habitats used by long-range migrants from North America. (1990, 1991, 1992).
- . Cooperated in coastal ecosystems studies in Panama and contributed to establishment of Ramsar site in Bay of Panama.

Western and Northern Region

- . Renewed MOU with the U.S. Fish and Wildlife Service re Whooping Crane (1985, 1990)
- . Conducted search for Piping Plovers in Cuba, also co-authored a report identifying potential endangered species sites for Piping Plovers under the Western Hemisphere Shorebird Reserve Network. (1990)
- . Continued search in Mexico for wintering areas of the burrowing owl (date unknown).

Ontario Region

- . Developed a draft Management Plan (1990) for the proposed Ramsar site at Walpole Island, Indian Reservation (Ontario) and a MOU was signed re CWS funding for the draft management plan.
- . Participated in the local Biosphere Committee and the Technical Advisory Committee, for the world Biosphere Reserve at Long Point. The Long Point National Wildlife Area forms the core protected zone for this biosphere reserve, designated under UNESCO's Man and the Biosphere Program.

Atlantic Region

- . Helped develop the Wetlands for the Americas program, which opened an office in Canada in Ottawa (1992).
- . Participated in the 1990 Ramsar Convention of contracting parties.

Headquarters

- . Provided funding support to the Latin American Program (LAP). LAP is a co-operative program with Latin American countries to promote the conservation and protection of shared species of migratory birds and their habitats.
- . Contributed to the Action Plan to implement the agreement on the Conservation of Arctic Flora and Fauna (CAFF). This agreement between the eight circumpolar countries was signed in 1991, under the international Arctic Environmental Protection Strategy. The goal

of the CAFF agreement is the conservation of the biodiversity of the Arctic ecosystem.

- Provided financial support to the Secretariat to the North American Wetlands Conservation Council (Canada) (NAWCC), which was created in 1991 and continues to act as a facilitating tool for NAWMP implementation.

- Participated in the implementation in Canada of the Canada-Russia Environmental Accord (signed in 1990), an agreement to provide for environmental cooperation between Canada and Russia. To implement the Agreement a Mixed Commission was established and five Working Groups set up. CWS is a member of the group dealing with Natural Resource Management, including wildlife. Annual Action Plans are developed by the Working Group and cover topics such as habitat and habitat protection, migratory waterfowl and exchange of biological specialists. (ongoing)

- Participated in the implementation of the Canada/Mexico Agreement for Environmental Cooperation, which was signed in 1990. The Agreement calls for the two countries to cooperate for the conservation of shared species and their habitat, particularly those that are endangered. For example, the Monarch Butterfly, a species which migrates between Canada and Mexico and whose very specialized Mexican overwintering habitat is under serious threat, will be the subject of a conservation project in 1993-94.

- Initiated the Shorebird Atlas Project in Mexico (1992) and a report on the first year's work completed and sent to SEDUE (Mexico) and CWS-NWRC published the paper (1992).

- Contributed text and data to the Canada Chapter in the IUCN and World Monitoring Centre publication "Protected Areas of the World: A Review of National Systems". (1992)

- Contributed Canadian Section to IUCN Conservation Atlas entitled "Wetlands in Danger" (1992-93); contributed Canadian section to North American publication 1991 entitled "Wetlands of North America" (private publication).

GOAL VI:	To support and promote the development of scientific expertise to improve the technical base for habitat conservation.
----------	--

Strategy VI (11):	CWS will maintain and where necessary upgrade its scientific capabilities vis-a-vis wildlife habitat conservation.
-------------------	--

Pacific and Yukon Region

- Completed and published 2-year study on Birds of Boundary Bay for use in federal/provincial/municipal land use planning.

- Printed and widely distributed technical report (March 1992) and summary report in (July 1992) on wetlands inventory of Fraser Lowland.

- Distributed GIS files and database of the Fraser Lowland wetlands inventory. (September 1992).

- Began major research initiative in coastal ecosystem looking at habitat relationships for shorebird populations.

- Signed 4-year agreement to develop strategy and work plan for delivering the Forest Diversity Program of the Fraser River Action Plan. (April 1992). Partners are the B.C.

Conservation Foundation and the Centre for Applied Conservation Biology at the University of British Columbia.

- . Under Forestry Diversity Program, funded the bird component of a multi-party, multi-year study on maintaining attributes of biodiversity on a sustainable basis in managed forests.
- . Under Forestry Diversity Program, funded identification of landscape attribute dependencies of wildlife species that respond similarly to habitat structure and landscape patterns in three biogeoclimatic zones.
- . Signed four-year agreement on Primary Cavity Nesters with B.C. Conservation Foundation to determine habitat requirements and breeding ecology of woodpeckers in relation to forest land use practices in Kamloops Forest Region. (September 1992).
- . Negotiated and signed cooperative agreement for airborne imagery study of Fraser River Delta foreshore / Boundary Bay ecosystem. Multi-agency/industry funded to test application of prototype system.
- . Completed field evaluation of sediment and vegetation distribution on Boundary Bay tidal flats, in partnership with Ducks Unlimited and Simon Fraser University.
- . Signed two-year agreement with DFO and the Province of British Columbia to map land use and vegetative cover for use in GIS, and to produce two map sheets in the Central Interior Ecoprovince (Cariboo/Chilcotin).
- . Developed and tested new study techniques for the Marbled Murrelet, a secretive species threatened by habitat loss. (June 1991).
- . Participated in cooperative habitat research with the Yukon Territorial Government and Canadian Parks Service (mapping and key habitat studies).
- . Purchased and received training on SPANS GIS in the CWS Whitehorse office. (May 1991).

Western and Northern Region

- . Initiated a compilation of a shorebird inventory, together with a list of potential candidate sites for shorebird reserves.
- . Initiated a research program to monitor the effects of cover conversion on waterfowl recruitment on the aspen forest range. Range conversions and their subsequent effect on waterfowl populations will be monitored. Study results should result in guidelines for pasture management to provide compatible benefits for both livestock and breeding waterfowl.

Ontario Region

- . Utilized the National Wildlife Areas at St. Clair, Big Creek and Long Point to facilitate and cooperate in a variety of research projects (government-university).
- . Since 1992, undertook the development of a marsh monitoring protocol (for marsh birds and amphibians). Monitoring will be undertaken, with volunteers, in future years.

Atlantic Region

- . Evaluated the level ditching management technique for enhancing wetland productivity

- Initiated the development of an Atlantic Cooperative Wildlife Ecology Research Network (ACWERN) in cooperation with three Atlantic Region universities and other partners as a regional research network focused on wildlife ecology in the marine, coastal and terrestrial ecosystems, to address fundamental and applied problems in wildlife ecology and habitat relationships. Discussions took place among universities in 1992.

Headquarters

- Co-sponsored a multi-agency wetland science workshop in 1991; 62 research and information needs for wetland science were identified at the workshop, and were published in a report entitled "Wetland Science Research Needs in Canada" (C. Wedeles and others, 1992), published in partnership with the University of Waterloo's Wetlands Research Centre, Environment Canada and the North American Wetlands Conservation Council (Canada).

- Co-sponsored with Wildlife Habitat Canada (WHC), their envisioning landscapes workshop. (1992)

- Sponsored a national workshop on Purple Loosestrife management (March 1992), hosted by the Secretariat of the NAWCC. Draft Proceedings were produced (May 1992) compiled by C.D.A. Rubec and G.O. Lee (not published). The workshop was attended by 75 delegates from across the nation and from all sectors impacted by this exotic plant.

GOAL VII: To ensure that the importance of wildlife habitat in Canada is promoted.

Strategy VII (12): CWS will actively promote the importance of wildlife habitat in Canada.

Pacific and Yukon Region

- Produced report, in cooperation with the Porcupine Caribou Technical Committee, on the Sensitive Habitats of the Porcupine Caribou Herd for the International Porcupine Caribou Board. (March 1991).

- Published report on "Vegetation communities within the range of the Porcupine Caribou Herd in Canada"; D. Russell et al., 1992. CWS Technical Report 139. 51 p.

- Published and widely distributed a technical report on a wetlands inventory of the Fraser lowland. (P. Ward et al. 1992. Wetlands of the Fraser Lowland, 1989: an Inventory. CWS Technical Report 146).

- Printed and widely distributed a summary report on wetlands of the Fraser lowland. (P. Ward. 1992. Wetlands of the Fraser Lowland: Summary Report. CWS Technical Report 156).

- Published a report on "Creston Valley Wildlife Management Area: habitat management and wildlife responses, 1968 - 1991". S. Wilson, 1992. Technical Report 162.

- Shared with Royal B.C. Museum the publication of volumes 1 and 2 of Birds of British Columbia which analyses habitat for all non-passerine bird species in British Columbia based on NGO data contributions. (November 1990).

- Prepared Provisional Guidelines for Habitat Protection. (October 1992).

- Under Forestry Diversity Program, produced pamphlet on Bald Eagles and Forestry. (October 1992). Three more pamphlets to be produced over next three years. (PYR).
- Published Greenfields Newsletter, with DU, every two months. (1992).

Western and Northern Region

- Published a report "Key Migratory Bird Terrestrial Habitat Sites in the Northwest Territories". (S.A. Alexander and others. 1991. 2nd edition. Occasional Paper No. 71, CWS.)
- Published a report "A natural resource survey of the Melville Hills region, Northwest Territories". S. Zoltai et al. 1992. Technical Report 135.

Quebec Region

- Produced a bibliography of reports on forest birds and forestry: "Effets des perturbations naturelles et sylvicoles sur l'avifaune forestière : une synthèse bibliographique. 30 p.
- Produced a report "Habitats of the northeast coast of James Bay". N. Dignard et al, 1991. Occasional Paper 70.

Ontario Region

- Produced a report "Declines in Canadian amphibian populations: designing a national monitoring strategy". C. Bishop and K. Pettit, editors. 1992. Occasional Paper 76.

Atlantic Region

- Published a report "An inventory of the aquatic birds of Cape Jourimain National Wildlife Area, 1989". C. MacKinnon and R. Hicks, 1990. Technical Report No. 128.
- Published a report "The flora of Cape Jourimain National Wildlife Area, New Brunswick". H. Harries et al. 1991. Technical Report No. 129.
- Published a report "Seabird and seaduck movement through the Northumberland Strait". C. MacKinnon et al. 1991. Technical Report No. 130.

Headquarters

- Co-published report "Guidelines for the Integration of Wildlife and Habitat Evaluations with Ecological Land Survey. Wildlife Working Group of the Canada Committee on Ecological Land Classification. (Edited by H.A. Stelfox and others). Wildlife Habitat Canada and EC/CWS. (1991)
- Sponsored a report (produced on contract) entitled "Assessment of Priority Sites for the Establishment of a Network of Conservation Areas by the Canadian Wildlife Service" (Environmental-Social Advisory Services Inc. (ESAS), Feb. 1992). The report reviewed various listings of significant migratory bird habitat sites, assigned priorities to individual sites, and suggested possible designations for their future protection such as national wildlife areas, migratory bird sanctuaries, or shorebird reserves.
- Co-sponsored the Environment Canada (CWS), Wildlife Habitat Canada and Agriculture Canada report entitled "Common Ground: Recommendations for Policy Reform to Integrate Wildlife Habitat, Environmental and Agricultural Objectives on the Farm". The report reviewed agriculture subsidies as they relate to soil and water conservation (John Girt,

1990).

- . Produced a report entitled "Potential Western Hemisphere Shorebird Reserve Network Sites for Migrating Shorebirds in Canada", by R.I.G. Morrison, R.W. Butler, H.L. Dickson, A. Bourget, P.W. Hicklin, J.P. Goossen; 1991. CWS Technical Report Series No. 144.
- . With Canada Centre for Remote Sensing, produced a report on the effect of climate change on arctic nesting geese (Sept. 1992)
- . Co-published the "Wetland Evaluation Guide" (Mar. 1992). Wildlife Habitat Canada, CWS, NAWCC. Sustaining Wetlands Issues Paper, No. 1992-1; (Final Report of the Wetlands are Not Wastelands Project).
- . Co-published "No Net Loss: Implementing No Net Loss Goals to Conserve Wetlands in Canada" (1992). CWS and NAWCC. Sustaining Wetlands Issues Paper No. 1992-2.
- . Produced the report "Wetlands for the World: Canada's Ramsar Sites". D.I. Gillespie, H. Boyd, and P. Logan. Environment Canada, Canadian Wildlife Service. 1991.
- . Developed a discussion document "Canadian Wildlife Service and 12% Protected Areas Initiative: Protection Assessment of Migratory Bird Sanctuaries and National Wildlife Areas". CWS discussion paper. L. Warren, 1992. CWS Habitat Conservation Division.
- . Funded re-printing of a brochure entitled "Purple Loosestrife", published with Ducks Unlimited and the Canadian Wildlife Federation. Also contributed to brochure "Beautiful Killer" on purple loosestrife.
- . Contributed papers to two national conferences on landscape ecology: a) "Landscape Approaches to Wildlife and Ecosystem Management" (1990; published in 1991); and b) "Sustainable Landscapes" (1992).
- . Produced several reports under the North American Waterfowl Management Plan program: "Report on Canadian first step projects: for the 1988 to 1990 period" (1991); "Report on Canadian second step projects: for the September 1988 to March 1991 period" (1992); "Join us in a partnership for wetlands" (1991).
- . Co-planned, with Parks Canada, the Canadian Nature Federation and the Office of the Speaker (of the House of Commons), the "Speaker's Forum on Canadian Wildlands" (December 1992). Proceedings will be published, entitled "Preserving Canada's Wildlands".

This page is
intentionally left blank

PART B**1993 Accomplishments**

in implementing
"An Action Plan For Wildlife Habitat
Conservation:
Canadian Wildlife Service"

OBJECTIVE I: To maintain wildlife habitat throughout Canada in sufficient quantity and quality to support desired and sustainable wildlife population levels.

SUB-OBJECTIVE I: To maintain and/or enhance wildlife habitat on federal lands.

Strategy 1.1: CWS will establish and maintain key habitats in a national network of National Wildlife Areas.

Pacific and Yukon Region

- Prepared draft of a new Management Plan for Alaksen NWA and held public consultations on plan.
- Negotiated establishment of Nisutlin River Delta NWA (5000 ha) under the Teslin Tlingit Final Agreement.
- Purchased informatics software, hardware, and digital imagery needed to produce a habitat map for Nisutlin River Delta NWA and surrounding area.
- Negotiated MOU with Port of Vancouver to lease Maplewood Mud Flats to become a wildlife conservation area and site of Environment Canada labs.

Prairie and Northern Region

- Work specifications were developed with DND regarding a boundary survey at CFB Suffield to determine future boundaries of the proposed Suffield National Wildlife Area, and discussions were held regarding the feral horse reduction program.
- Work began on creating new CWS protected areas in the eastern Arctic. Community consultations are underway with the community of Coral Harbour and the Keewatin Inuit Association regarding protection of Coats Island.
- Contact was made with several Ungava Bay communities and with Makivik Corporation regarding protection of Digges and Akpatok Islands; this initiative is presently on hold pending a conclusion of Makivik's claim regarding offshore use of these islands.
- Consultations were completed regarding the creation of Nirjutiqavvik (Coburg Island) National Wildlife Area. The proposal received wide support and was submitted to the regulatory process in 1992. Tentative date of creation is 1995.
- The community of Clyde River chose the national wildlife area designation to protect important Bowhead Whale habitat in Igalirtuq (Isabella Bay), Baffin Island. CWS is presently working with the Clyde River Hunters and Trappers Association, DIAND, DFO, and Government of the Northwest Territories - Renewable Resources to formulate management policies for the area. Official status for the area is expected in 1995.

Ontario Region

- Work has continued on the effective implementation of approved management plans at the 10 Ontario national wildlife areas, comprising 5,187 ha of wildlife habitat.
- Utilized management agreements with Ducks Unlimited Canada to facilitate maintenance of dykes and pumps at St. Clair and Big Creek National Wildlife Areas, at no cost to CWS.

- Continued low-key public awareness programs at the National Wildlife Areas at St. Clair, Big Creek, Long Point and Prince Edward Point that included waterfowl viewing weekends, slide talks, dyke-top walking trails, viewing towers and pamphlets.

- As a partner in the Eastern Habitat Joint Venture, identified priority securement areas. Target areas of the highest priority include wetlands adjacent to or associated with existing National Wildlife Areas at Lake St. Clair and Big Creek/Long Point. Partner agency, the Nature Conservancy of Canada, is targetting these areas for securement using a variety of techniques from acquisition to conservation agreements. Adjacent properties would infill existing NWAs.

Quebec Region

- The objective of the St. Lawrence Action Plan (Phase I), to protect 5000 hectares of critical wildlife habitat, has been achieved through the protection of 1132 ha in 1992-93. Of those 5000 hectares, about 500 have been protected in order to consolidate the habitats within seven national wildlife areas.

- Reviewed the Regulatory Impact Analysis Statements, the Communications Plans and the legal descriptions for the extension of 4 National Wildlife Areas (Cap Tourmente, Contrecoeur Islands, Pointe-au-Père and East Point).

- Signed two new agreements with Ducks Unlimited on wildlife habitat management and restoration on national wildlife areas (Îles de l'Estuaire and Baie de l'Isle-Verte NWAs).

- In cooperation with a local NGO, began development operations on Baie de l'Isle-Verte NWA (4 year project).

- Pursued inventory of birds in the Baie de l'Isle Verte NWA and Îles de Contrecoeur NWA.

- Implemented summer public awareness programs in Pointe de l'Est, Îles de l'Estuaire and Baie de l'Isle-Verte NWAs. Annual awareness program operating in Cap Tourmente NWA.

Atlantic Region

- Coordinated with national historic sites staff at Fort Beausejour, developing an agreement to transfer national historic sites land to CWS for wetland enhancement purposes.

- Revised and updated the Management Plan for the Cape Jourimain National Wildlife Area.

- Conducted resource inventory (avifaunal survey) at Portage and Boot Island NWA's.

- Through the assistance of the New Brunswick Federation of Naturalists and funding from the Environmental Trust Fund, a wildlife interpretation facility was developed at the Mary's Point section of Shepody NWA

- Revised Regulatory Impact Analysis Statement, Communication Plan and legal description for the proposed Portobello NWA. Included potential NWA additions in listings of priority migratory bird habitats.

Headquarters

- CWS developed draft criteria for selecting candidate national wildlife areas (December). These biological selection criteria will be applied to proposed areas for protection, to determine that an area is "nationally important" as wildlife habitat.

- Developed a proposal for transfer to CWS of surplus federal lands at Long Point, ON and at Cape Enrage, NB. To support this proposal, CWS prepared a draft Treasury Board submission with Treasury Board Secretariat. The submission proposed that, in specific cases, for the creation/consolidation of national wildlife areas, a free interdepartmental transfer of lands be allowed. TB's new federal policy requires market value transfers. The submission was unsuccessful.

SUB-OBJECTIVE I: To maintain and/or enhance wildlife habitat on federal lands.

Strategy 1.2: CWS will establish and maintain a network of Migratory Bird Sanctuaries.

Pacific and Yukon Region

- No changes for Migratory Bird Sanctuaries over the reporting period

Prairie and Northern Region

- Completed a habitat inventory of the Queen Maud Gulf Bird Sanctuary. The inventory responded to the Conservation Advisory Committee on the Northern Mineral Policy's recommendation that the Sanctuary be reduced in size. Final results of the inventory will be published shortly.
- Undertook surveys of Kendall Island MBS in response to the Conservation Advisory Committee on the Northern Mineral Policy's recommendation that the Sanctuary be enlarged. Results from shorebird and waterfowl studies will be published.

Ontario Region

- Continued ongoing management of existing MBSs through posting signs and cooperative enforcement visits by OMNR staff.
- Initiated steps to delist the Guelph MBS, as it no longer meets the MBS Criteria

Quebec Region

- Public consultation with nearby municipalities was held concerning the proposed designation of a Migratory Bird Sanctuary at Gros Mécatina.

Atlantic Region

- Completed a major review (including extensive public consultations) of the four Sanctuaries in southwest Nova Scotia (Port Joli area).
- Updated survey information on the Inkerman, New Brunswick, Black-crowned Night-heron colony and initiated procedures to establish a Migratory Bird Sanctuary.
- Developed linkages with the US Fish & Wildlife Service to help with the scheduling of the access permits for the American charter boats visiting Machias Seal Island MBS.

Headquarters

- Undertook a review of regulations under the Migratory Birds Convention Act and the Canada Wildlife Act as part of a departmental Regulatory Review in 1992-93. A discussion

document was widely distributed (November), as a basis for review and comment by interested groups/individuals. Public comments are due by the Spring of 1994.

SUB-OBJECTIVE I: To maintain and/or enhance wildlife habitat on federal lands.

Strategy 1.3: CWS will actively seek the cooperation of the Canadian Parks Service to ensure the continued maintenance of key habitats within National Parks.

Pacific and Yukon Region

- Reviewed rat infestation problems on islands in Gwaii Haanas National Park Reserve and identified seabird colonies and other sites for future rat eradications. (June)
- Produced maps depicting the distribution of vegetation and land cover units on the Yukon coastal plain in Ivvavik National Park.
- Continued research for the second year to document important habitats for breeding migratory birds on the Yukon Coastal Plain, with the cooperation and support of Ivvavik National Park. (June)
- Provided advice to Jasper National Park on Harlequin duck requirements re use of habitat by commercial white-water rafters. (February)

Prairie and Northern Region

- Worked with Parks Canada and MAB/Biosphere Reserves program and the local community of Clyde River towards the establishment of a functioning biosphere reserve at Igalirtuq (Isabella Bay) proposed NWA, Baffin Island. (ongoing)
- Provided two research reports to Parks Canada (Jasper National Park) on snow conditions, diet, habitat and diversity of mammals in areas occupied by caribou.

Ontario Region

- Continued to share data and information with Point Pelee National Park staff with respect to white-tailed deer/vegetation interactions and the results of different approaches to deer population management.

Quebec Region

- Conducted a twice-weekly waterfowl inventory in Saguenay Marine Park - a two year project started in 1993 jointly with Parks Canada.
- Studied Pileated Woodpecker ecology in Mauricie National Park - a joint program with Parks Canada.
- Monitoring of contaminants in eggs of eiders, terns and cormorants in Îles de Mingan National Park.
- Revisions and assessment of methods for inventory of birds wintering in Îles de Mingan National Park.

Atlantic Region

- Parks Canada have recently established endangered species reserves, under the Western Hemisphere Shorebird Reserve program, for Piping Plover at Kouchibouguac National Park in New Brunswick, P.E.I. National Park and at the Kejimikujik seaside adjunct in Nova Scotia.
- Arranged a land transfer with Parks Canada for a 152 acre (62 ha) parcel of marshland (Aulac Marsh) near Fort Beausejour, N.B. This will become a section of the Tintamarre National Wildlife Area. Adjacent properties may be purchased under the Eastern Habitat Joint Venture.

Headquarters

- Cooperated with Parks Canada in developing the departmental position on various protected areas issues including Tatshenshini-Alsek where mining was proposed; and conservation of the Rouge Valley corridor in Ontario.
- Developed, with Parks Canada, a departmental background paper on the 12% protected areas initiative, to provide current information on the federal government's national parks, national wildlife areas and migratory bird sanctuaries.
- Held discussions with Parks Canada regarding representivity requirements for possible equivalent reserve status for Igalirtuuq (Isabella Bay) proposed National Wildlife Area.
- Coordinated with Parks Canada, through the Departmental Protected Areas Working Group, in providing federal protected areas input to various national reports: World Wildlife Fund's annual progress report on Endangered Spaces; Canadian Council on Ecological Areas' annual jurisdictional reports on progress in protected areas, and preparing for the Speaker's Forum on Canadian Wildlands.

SUB-OBJECTIVE I: To maintain and/or enhance wildlife habitat on federal lands.

Strategy 1.4: CWS will actively promote the protection, maintenance, enhancement and management of wildlife habitat on other federal lands.

Pacific and Yukon Region

- Drafted MOU with CFB Esquimalt (Nanoose) to create a National Wildlife Area. (January)
- Hosted a research workshop with Canadian Forces Base Esquimalt. to further knowledge of ecosystems represented by lands on the Base.
- Participated in multi-agency environmental assessment for the City of Whitehorse sewage treatment land studies and the Aishihik Hydroelectric Project relicensing studies.
- Initiated a federal properties ecological assessment (April). Produced a draft report on the state of the environment for the Dominion Coal Block lands (October).

Prairie and Northern Region

- Provided advice to Canadian Forces Base Suffield on wildlife management on the base. Formulated a plan to conduct a formal boundary survey, and began work to create a National Wildlife Area. Initiated the legal survey of the proposed Suffield NWA in October as a preparatory measure for the formal designation.

DND/DOE co-funding agreement was signed in December, and the initial work on the ecological land survey was completed at CFB Suffield.

Quebec Region

- Continued the graze-rotation demonstration project on Îles de Varennes (Transport Canada), to enhance waterfowl habitat on those islands.
- Amended an already existing agreement between Transport Canada and CWS, to add three more islands in the Montreal-Sorel sector. This agreement allows CWS to administer and manage migratory bird habitats, and now covers nearly 500 hectares of priority habitats in the Montreal-Sorel sector.
- Developed, in cooperation with Ducks Unlimited, a wildlife management plan on Île Ronde (property of Transport Canada - Île de Sorel).
- Began negotiations with Transport Canada regarding habitat protection at Port de Cacouna.
- Began experimental restoration operations on the Saint Lawrence Seaway Islands, near Montréal.

Atlantic Region

- Inventoried and made contacts with local authorities to assess the wildlife habitat potential of the Tracadie Military Reserve, N.B.
- Initiated the transfer of 70 acres (28 ha) of marshland in the Tantramar Marsh, N.B., from Agriculture Canada.

CWS-HQ

- Since the announcement of the Federal Policy on Wetland Conservation in March 1992, CWS has documented over 40 departmental and federal agency referrals to this Policy with regard to their management or influence on wetlands. (September)
- Contributed to Forestry Canada's implementation of the Forest Strategy for Canada. Led the DOE response to the Canadian Council of Forest Ministers' questionnaire on progress under the Forest Strategy. (June)

SUB-OBJECTIVE 2: To maintain or enhance wildlife habitat on northern lands, i.e. lands in Yukon and the Northwest Territories.

Strategy 2: CWS will contribute to the maintenance and/or enhancement of wildlife habitat on northern lands.

Note: also refer to Strategies 1.1 and 1.2, for new initiatives in the north regarding NWAs and MBSs.

Pacific and Yukon Region

- Establishment, through settlement of the Vuntut Gwitchin First Nation land claim, of the Old Crow Flats Special Management Area, Yukon, to be cooperatively managed by CWS with

the Vuntut Gwitchin and the Government of Yukon. Settlement legislation should be proclaimed in 1994-95.

- Initiated a three-year program of field studies of waterfowl and their habitat on the Old Crow Flats (1993). A major purpose of the studies is to gather the information needed to produce a good management plan for the Flats.

- Participated in the drafting of the Yukon North Slope Conservation and Management Plan.

Prairie and Northern Region

- Over two-thirds of the Northwest Territories comes under the jurisdiction of settled land claim agreements. Each settlement region has a wildlife management board consisting of aboriginal leaders and representatives from wildlife-related government agencies. CWS has a seat on each wildlife management board and so has an influential role to play in wildlife habitat management in the settlement regions.

Ontario Region

- Continued work on the development of a co-management agreement with Aboriginal peoples of James Bay, for the conservation of waterfowl, particularly southern James Bay Canada geese.

SUB-OBJECTIVE 3: To support the maintenance and/or enhancement of wildlife habitat on provincial Crown lands.

Strategy 3: CWS will contribute to the maintenance and/or enhancement of wildlife habitats on provincial Crown lands.

Pacific and Yukon Region

- Initiated a rat eradication program on Langara Island (Queen Charlotte Islands) (4000 ha), to recover lost seabird breeding habitat. (Ongoing)

- Participated in design and implementation of a raccoon control strategy in the Queen Charlotte Islands to protect seabird colonies from introduced predators. (November)

- Provided grant funding, management direction, and co-produced strategic plan for future operation of Creston Valley Wildlife Management Area. (September)

- Participated with B.C. Ministry of Forests in defining and redefining appropriate strategies for protecting Marbled Murrelet (a threatened species) nesting habitat in tree farm licences and timber supply areas. (October)

- Jointly funded an inventory of threatened ecosystems in east coast Vancouver Island, with the Conservation Data Centre, British Columbia Ministry of Environment, Lands and Parks and Department of Fisheries and Oceans. (August)

- Presented CWS Statement of Interest for protected areas in the Cariboo/Chilcotin region of British Columbia. (August)

- Co-signed the Goals and Principles for Land and Resources Management Planning for British Columbia. (October)

- . Initiated a project to catalog important bird areas in British Columbia and Yukon. (April)
- . Provided technical advice to British Columbia Crown Lands re numerous land use applications with potential to impact migratory bird habitat.

Prairie and Northern Region

- . Signed onto the Manitoba Critical Wildlife Habitat Agreement for one year. Renewal of the agreement is being sought. The Critical Wildlife Habitat Program aims to preserve tallgrass prairie in Manitoba, and to date, 1,000 hectares of tallgrass prairie have been acquired.
- . Conducted a survey of mixed grass prairie on provincial lands in selected areas in western Manitoba.
- . Mapped the remaining native prairie in Southwestern Alberta was mapped. (November)
- . Evaluated potential protective designations of Lost River area in Southern Alberta (November). Some provincial protective measures ("notations") were initiated on several areas.
- . Initiated a review of options for environmentally friendly agriculture subsidies under NAWMP (March).
- . Developed and released a riparian cottonwood conservation strategy for Southern Alberta (November).
- . Supported the establishment of the Conservation Data Centre in Saskatchewan. In September, plans were begun for the same in Manitoba.
- . Input to the Province of Saskatchewan's development of a comprehensive Forest Management Strategy, which will likely see the Province explicitly recognize the biological importance of protecting the full spectrum of forest types, including Old Growth stands.

Ontario Region

- . Worked with the Eastern Habitat Joint Venture-Ontario Coordinator (NAWMP) to develop a joint approach to the environmental review of EHJV habitat conservation proposals to ensure that both provincial and federal requirements are met, and that the goal is achieved by one document/process.
- . Participated in the review/development of environmental impact statement guidelines for the implementation of the Ontario Wetland Policy.

Quebec Region

- . Supported the Quebec Environment Department initiatives under the St. Lawrence Action Plan by financial contribution agreements that supported the acquisition and designation of lands that will be designated as (provincial) ecological areas (127 ha).
- . Conducted an impact study of forestry development on the black spruce forest avifauna of the Laurentides wildlife area.

Atlantic Region

- . Initiated a wetlands inventory, using satellite imagery, in Labrador.

- . Initiated the development of joint federal-provincial migratory bird habitat protection plans, which would involve Provincial Crown, private and corporate lands.

Headquarters

- . Reviewed and provided advice for the development of provincial wetland policies: reviewed drafts of provincial wetland policies, providing advice on policy content and implementation plans: Saskatchewan (1992-3), Alberta (1992-93), and Newfoundland (1993-94).
- . Facilitated year-end funding to Prairie and Northern Region for the Manitoba Critical Wildlife Habitat Program.

SUB-OBJECTIVE 4: To support the maintenance and/or enhancement of wildlife habitat on municipal and private lands.

Strategy 4: CWS will contribute to the maintenance and/or enhancement of wildlife habitat on municipal and private lands.

Pacific and Yukon Region

- . Signed agreement with Ducks Unlimited to fund Greenfields Program for four years to plant winter cover crops on about 1,200 hectares of private farmland in Delta and Surrey municipalities, for soil improvement and food for staging / wintering birds. (April). Provided advice to farmers.
- . Signed agreement with Ducks Unlimited, re Nicola River Wetlands Project, which will enable enhancement of riparian habitat over three years along the Nicola River system. (July)
- . Completed habitat enhancement on 265 hectares of Chilcotin Marshes by providing water control structure, in partnership with Ducks Unlimited and The Nature Trust of B.C. (October)
- . Signed a four-year contribution agreement, Wetlands Conservation Project, with Ducks Unlimited which will enable small-scale habitat enhancement projects to be implemented on private wetlands in the interior Fraser River basin. (June)
- . Provided advice to farmer and environmental groups in the formation of a society, the Delta Farmland and Wildlife Trust, to promote stewardship of agricultural land in Delta municipality.
- . Provided advice to Surrey, Delta, Coquitlam, and Port Coquitlam municipalities re: golf course applications, dyking projects and subdivisions with potential to impact on migratory bird habitat.
- . Participated in Delta Rural Land Use Study.
- . Completed Comox Habitat Landscape Model by G&C agreement with Ducks Unlimited. (September)

Prairie and Northern Region

- . In year four of a five year agreement between Canada and the four Western Provinces, the Waterfowl Crop Damage Prevention Program has reduced the damage of waterfowl on

private landowners' crops. The success of this program has reduced the conflict between waterfowl and prairie landowners. This has ensured the support of these landowners and the general public toward wildlife habitat conservation initiatives, such as the NAWMP across the Prairies.

- Represented wildlife interests on the many boards and advisory groups which have been formed to promote maintenance/enhancement of wildlife on municipal and private lands. (e.g. Prairie Conservation Coordinating Committee, Alberta Water Resources Commission, Multi-use Planning Committees).

Ontario Region

- Completed a draft implementation plan for Ontario, with Eastern Habitat Joint Venture partners under the North American Waterfowl Management Plan. The plan includes objectives for habitat securement, enhancement, restoration and stewardship.

- Led the development of a "Strategic Plan for Wetlands of the Great Lakes Basin", through a cooperative partnership between governments and non-governmental organizations. The Strategic Plan outlines the long term eight-step approach to protect, rehabilitate, and enhance wetlands in the basin. The Strategic Plan will be implemented through the Canadian Great Lakes Wetlands Conservation Action Plan...a series of five year action plans. The first Action Plan will focus on the lower Great Lakes wetlands, and this partnership initiative will be carried out through existing cooperative arrangements.

- Advised on the design and implementation of over 25 habitat rehabilitation projects in 12 Areas of Concern around the Great Lakes.

- Initiated habitat rehabilitation projects at five Great Lakes sites, with funding provided by the DOE Great Lakes Cleanup Fund. Projects at Oshawa, Dunnville, Long Point, Rondeau Bay and Big Point on Lake St. Clair will include habitat rehabilitation, securement and/or the preparation of Community Action Plans. The projects are dependent on local support and participation of government agencies and NGOs.

- Under the Canada-Ontario Agriculture Green Plan (signed September 1992), CWS developed, implemented and managed/administered the Wetlands, Woodlands, Wildlife Program. This four-year, \$2.4M Program under the Agriculture Green Plan (with funding from Agriculture Canada) promotes practices of mutual benefit to sustainable agriculture and the maintenance/enhancement of wildlife habitat. Ten demonstration projects and an information/education component will be delivered over a four year period.

- As part of the Sustainable Agriculture Project, participated in two projects aimed at developing a sustainable approach toward agriculture/ environment and providing information to farmers to assist them in planning and implementing environmental farm plans. Wildlife habitat is an important component of both the Best Management Practices and the Environmental Farm Plan programs, initiatives of the Canada-Ontario Agriculture Green Plan.

- Provided advice to farmers suffering or likely to suffer crop depredation from migratory birds, especially resident Canada Geese. This crop damage prevention program provides advice on the prevention and/or alleviation of problems, and issues crop damage permits under the Migratory Birds Convention Act.

Quebec Region

- Continued to work in collaboration with the Nature Conservancy of Canada and Wildlife

Habitat Canada in the St. Lawrence Action Plan Phase II and the Eastern Habitat Joint Venture (NAWMP). CWS intends to work with other NGOs in the St. Lawrence Action Plan II until 1997-98.

- In cooperation with local NGO's, contributed to endangered birds habitat identification on the Magdalen Islands and to waterfowl habitat identification in agricultural zones of Berthier-Sorel Islands. These two projects will last until the end of the St. Lawrence Action Plan II within the private stewardship programs.

Atlantic Region

- Provided advice on an ongoing basis to Town of Sackville, municipal planning offices, municipal landfill sites, etc. Provided scientific monitoring and study of the aquatic ecosystem (annual).
- Through the Eastern Habitat Joint Venture stewardship programs in all four Maritime provinces, made contributions to the enhancement and maintenance of wetlands located on municipal and private lands.

Headquarters

- Developed a proposal for a national review of the use of wetlands for wastewater storage, and in 1994 CWS will implement the proposal by a consultant contract.
- In support of the Canadian North American Waterfowl Management Plan program, ensured United States funding of Canadian NAWMP projects by facilitating the project approval process through various Canadian and U.S. committees. (Ongoing) 75% of the federal NAWMP contribution is targetted at rural areas of Canada mainly in the Prairie provinces. (77% Prairie Habitat Joint Venture, 17% Eastern Habitat Joint Venture, 6% Pacific Coast Joint Venture).

SUB-OBJECTIVE 5: To support the maintenance or enhancement of the productivity of marine wildlife habitats.

Strategy 5: CWS will contribute to the maintenance or enhancement of the productivity of marine wildlife habitats.

Pacific and Yukon Region

- Through the Nestucca Trust Fund, CWS is managing projects and advising on the enhancement of interactive GIS systems needed for improving the response and protection of southwestern Vancouver Island marine and coastal habitats from the impact of oil spills. (November)
- Participated in the development of a Marine Protected Areas Strategy in British Columbia.
- Participated in the development of a Coastal Resource Management Strategy.
- Collaborated in a coastal habitat classification system for British Columbia. (June)
- Started development of a marine bird conservation strategy for the Pacific and Yukon Region. (April)

- Identified marine areas of interest to CWS for Protected Areas Strategy and CORE - Vancouver Island land use process. (October)
- Contributed to the formation of a computerized data base of waterbird surveys on the coast of British Columbia.
- Published a report on the status, ecology and conservation of marine birds of the North Pacific.

Prairie and Northern Region

- Completed a northern Oil Spill Contingency Plan. The plan outlines CWS responsibilities in case of an oil spill in northern waters.
- The community of Clyde River chose a National Wildlife Area designation for protection of Bowhead Whales at Isabella Bay. An ad hoc NWA Establishment Committee was formed and work progresses on the NWA management plan and NWA designation.

Ontario Region

- Worked with provincial counterparts and Parks Canada to designate Lake Superior as a protected area.

Quebec Region

- Initiated Surf Scoter distribution study in the Saint Lawrence Estuary and in the Saguenay Marine Park. The objective of this two year project, is to identify critical habitats and to develop protection strategies.

Atlantic Region

- Completed an Atlantic Region Tern Management Plan.
- Initiated a coastal mapping program that allows the inputs and analyses of coastal habitat and bird populations data along with other marine issues ie oil spills, ship traffic etc.
- Successfully supported the Canadian Coast Guard in court cases involving discharges of oil into marine bird habitats.
- Produced an annotated outline of an international Murre management strategy with 7 other circumpolar countries which contains a habitat protection component.
- Produced a first draft of a Newfoundland & Labrador Murre management plan which has a habitat protection component.
- Guided local initiatives to protect eiders and coastal habitats in Table Bay, Labrador.
- Continued work on seaduck/cultured mussel interactions in Newfoundland, including the development of a GIS (Geographic Information System) to aid in decision making.
- Contributed to the development of Management Plans for Newfoundland Seabird Ecological Reserves.

Headquarters

- Participated with DFO re development of a draft DFO guideline on the recreational observation of marine mammals.
- Obtained legal clarifications from DOJ on questions pertaining to the ability of the Canada Wildlife Act to allow for the creation of a solely marine national wildlife area (e.g. Isabella Bay, Baffin Island).

SUB-OBJECTIVE 6: To protect, maintain, enhance or rehabilitate habitat for endangered species under federal jurisdiction.

Strategy 6: CWS will contribute to the protection, maintenance, enhancement or rehabilitation of habitat for endangered species.

Pacific and Yukon Region

- Led three National Recovery Teams under Recovery of Nationally Endangered Wildlife (RENEW) for species where habitat loss is the major issue: Marbled Murrelet (threatened), an old-growth forest species; and White-headed Woodpecker (endangered) and Sage Thrasher (threatened), two species dependent on threatened habitats in the south Okanagan Valley. (November)
- Provided advice through the Spotted Owl Recovery Team.
- Commenced study of long-term viability of Garry oak forests, one of Canada's threatened ecosystems, in southern Vancouver Island. (April 1993). The ecosystem is being threatened by development.
- Initiated the Marbled Murrelet Recovery Plan (November). The habitat requirements and conservation strategy are being developed. (Ongoing)

Prairie and Northern Region

- One species (the Western Fringed Prairie Orchid) was added to the COSEWIC list in 1993, and one was removed (Prairie Long-Tailed Weasel).

Ontario Region

- Through the implementation of the approved management plan for Long Point NWA, secure habitat for Piping Plover is maintained at the last known southern Ontario site for this species.
- Recovery plan for the Henslow's Sparrow has been accepted by the RENEW committee, population surveys undertaken and potential habitat identified.
- The Loggerhead Shrike Recovery Plan is being implemented.

Quebec Region

- Continued and enlarged the cooperative program on threatened species by initiating studies on the management of Horned Grebe, Roseate Tern, and Piping Plover habitats.

Implementation of the Piping Plover, Loggerhead Shrike and Peregrine Falcon recovery plans has been ongoing. The population target has been met for the Peregrine Falcon. The Piping Plover recovery plan is being implemented on the Magdalen Islands.

Initiated the Roseate Tern national recovery plan. Action plans to be developed for the Roseate Tern, Northern Shrike and the Yellow Rail.

Drafted the Harlequin Duck (Eastern population) recovery plan.

Atlantic Region

Drafted the Harlequin Duck (Eastern population) recovery plan.

Hosted a workshop (October) and led the initiative in developing the concept of a Conservation Data Centre for the Atlantic Provinces. (ongoing)

Headquarters

In addition to its logistic and scientific support for the COSEWIC and RENEW Secretariats, CWS reviewed proposals submitted to the Endangered Species Recovery Fund and provided half of the money to selected projects including the following:

- Effects of habitat quality and fragmentation on the prey supply for Burrowing Owls
- Protection and enhancement of Piping Plover habitat
- Studies of population dynamics and habitat use by Loggerhead Shrike and protection of its nesting habitat
- Support recovery of Manitoba's threatened grassland birds
- Field studies of rarest New Brunswick vascular plants
- Study of critical habitats of Woodland Caribou in Saskatchewan
- Provide artificial nesting site for Ferruginous Hawk
- Research on Orchids in northern Alberta
- Marbled Murrelet habitat use in British Columbia
- Recovery of the threatened Western Spiderwort

Up to June 1993, a total of 13 recovery plans were approved by RENEW and several others are underway.

Initiated, with Wildlife Habitat Canada, a study of habitat requirements of endangered species (1992-93). Report targetted for publication in 1994-95.

OBJECTIVE II: To encourage and support the habitat conservation initiatives of Non-Government Organizations (NGOs).

Strategy II (7): CWS will actively encourage and support the habitat conservation initiatives of NGOs.

Pacific and Yukon Region

Amended existing agreement with The Nature Trust of B.C. to contribute to the acquisition of key habitat in the Englishman River estuary, in partnership with Province of British Columbia and other NGOs. (March). The area between Parksville and Qualicum has been subsequently dedicated as a provincial wildlife management area.

- Using data collected by NGOs, and jointly with British Columbia Environment, Lands and Parks, completed analysis of habitat use by one-half of the passerine bird species in B.C. (October)
- Completed agreement with Nature Trust of B.C. to lease Harlock Island, to extend Alaksen NWA.
- Completed agreement with Nature Trust of B.C. to lease Rosewall Creek property, to extend Rosewall Creek Unit of Qualicum NWA.
- Contributed to the purchase of the Gunn Island property in the mouth of the Fraser River via a contribution agreement with the Nature Trust of British Columbia.

Prairie and Northern Region

- Actively participated in the Prairie Conservation Action Plan, initiated by the World Wildlife Fund in 1989. Progress in implementing the Plan was reported in the Annual Reports of 1992 and 1993.
- Conducted, in cooperation with the Manitoba Naturalists Society, an inventory of natural sites within the City of Winnipeg. Sites will be assigned a value relating to their importance to wildlife.

Ontario Region

- As an Eastern Habitat Joint Venture partner (NAWMP), worked with the Nature Conservancy of Canada (NCC), Ducks Unlimited Canada and Wildlife Habitat Canada to identify priority areas for securement in Ontario, and assisted NCC with initial landowner contacts at several key sites. NCC will work toward securement of these sites through a range of available options.
- The Nature Conservancy of Canada, working with CWS, OMNR and Ducks Unlimited, completed negotiations in December for the purchase of 385 hectares of critical wildlife and fish habitat in Dunnville Marsh. This 1,621 hectare Class I wetland has been given a high priority for protection under both the NAWMP and the Great Lakes Wetland Conservation Action Plan. The Grand River Conservation Authority will manage the property.
- Participated in the activities of the Long Point Biosphere Reserve through membership on the Technical Advisory Committee and as 1993 president of the Biosphere Committee. The Committee is composed of private individuals, representatives of concerned groups and government agencies, all representing various interests in the protection and wise use of the Long Point ecosystem.

Quebec Region

- Since the beginning of the St. Lawrence Action Plan, conducted a program to support the conservation activities of NGOs along the St. Lawrence River. This program provides scientific and financial support to local NGOs' conservation projects.
- Organized a workshop on habitat conservation which brought together some 60 local and regional NGOs (annual fall workshop).
- Joint publications with le ministère du Loisir, de la Chasse et de la Pêche and la Fondation de la faune du Québec of a second catalog on support programs for "Wildlife and Habitats" for Quebec NGOs.

Atlantic Region

- Entered into a cooperative arrangement with the Nature Conservancy of Canada for purchase of key properties at Johnson's Mills N.B., that are of international importance for shorebirds.
- Adapted and greatly expanded the National Conservation Areas Database to an Atlantic Region Conservation Areas Database (ARCAD) that currently holds information on over 900 "protected" sites in the region (Federal, provincial, municipal, and NGO).
- Developed the idea and concept of a coalition of agencies in the Atlantic Region under the banner of the Atlantic Region Conservation Areas Network (ARCAN).

Headquarters

- Assisted the Nature Conservancy of Canada's (NCC's) review of its program and future directions.
- Contributed to World Wildlife Fund's annual progress report on its Endangered Spaces Campaign, in support of WWF's goals.
- The Director General of CWS was nominated to the Wildlife Habitat Canada (WHC) Board of Directors in 1992-93. CWS participated on the project review board. (Ongoing)
- Initiated discussions with the Nature Conservancy of Canada towards renewal of the 1985 DOE - NCC Agreement regarding cooperative actions for land securement.
- Provided national/secretariat support to the Canadian Council on Ecological Areas, and funding support. (Ongoing)
- Provided funding and technical support to the Canadian Wildlife Federation's "Habitat 2000" Program, a co-operative program with schools and other groups.

OBJECTIVE III:	To ensure that the environmental impacts on habitat from new initiatives and existing programs and policies are minimized.
Strategy III (8):	CWS will contribute to the reduction of negative impacts on habitat from new initiatives and existing programs and policies.

Pacific and Yukon Region

- Achieved negotiated settlement protecting Brant (goose) wintering habitat in Shingle Bay, Queen Charlotte Islands by diverting location of a proposed marina to a non-critical site. (June)
- Provided scientific information on Marbled Murrelet habitat requirements to B.C. Forest Service planning and policy development initiatives.
- Maintained participation in Environment Canada's regional integrated environmental assessment function and continued to play an important role in EC's regional EA strategy development, especially re mines, hydro and power transmission.

Prairie and Northern Region

- . Under the Canada-Alberta Harmonization Accord, the province refers many environmental impact assessments to DOE for review of new projects on both private and provincial lands.
- . Conducts rigorous environmental impact assessment screenings on CWS projects to prevent negative impacts from new initiatives and existing programs. Advice of this nature is also provided to energy companies, utilities, and other potential proponents who seek information on habitat and wildlife for the preparation of project plans and EIAs. (Ongoing)
- . Participated actively in the environmental assessment of mining development in the North Slave Geological Province.

Ontario Region

- . Ongoing participation in the Regional review of environmental assessments through the Environmental Assessment Review Process.
- . Review of proponent proposals under the Eastern Habitat Joint Venture (NAWMP) using the CWS screening procedures to ensure that EHJV habitat conservation projects have mitigated impacts.
- . Implemented CWS environmental assessment screening procedures.

Quebec Region

- . Produced a summary report of CWS inventories in relation to the federal environmental assessment for the Great Whale River development project.
- . Entered into preliminary discussions regarding CWS participation in the Hudson Bay/James Bay bioregion initiative.

Atlantic Region

- . Completed comprehensive reviews of all assessment documents (Environmental Management Plans, Component Report, Environmental Protection Plans, Effects Monitoring documents etc.) related to the Prince Edward Island Fixed Link development.
- . Actively participated on the Environmental Effects Monitoring (Terrestrial Effects) Committee under the Fixed Link project.

Headquarters

- . Participated on the Forest Round Table on Sustainable Development which produced a Progress Report outlining a vision and principles for sustainable development. (March)
- . Contributed to the Environmental Policy Database (EPOL), a database that lists all federal policies. CWS has gone a step further and has provided background information on the goals and objectives of the policies for which it has the lead. The idea is that the other federal departments will use this database and will adhere to policy objectives when conducting their own environmental assessments.
- . Conducted an environmental impact assessment for the renewal of the Canadian NAWMP program. The analysis concluded that NAWMP fosters sustainable development and the renewed NAWMP program will not have significant adverse environmental impacts.

OBJECTIVE IV:	To ensure that the environmental quality of wildlife habitats is maintained or enhanced.
Strategy IV (9):	CWS will contribute to the maintenance or enhancement of the environmental quality of wildlife habitats, particularly for migratory birds.

Pacific and Yukon Region

- . Published "Critical Waterfowl Habitats in British Columbia", which maps, describes and provides general protection status for 38 wetland complexes and their associated uplands, considered to be critical for waterfowl.
- . Began long-term program to monitor persistent organochlorine compounds in the eggs of fish-eating birds in the Strait of Georgia and selected river basins in British Columbia and Yukon. (April)
- . Began five-year study with British Columbia Ministry of Environment, Lands and Parks to monitor lead shot and steel shot in waterfowl and wetland habitat, before and following implementation of a total ban of the use of lead shot for waterfowl hunting in B.C. (September)
- . Conducted study of the impact of chlorinated hydrocarbon pollutants on Bald Eagle embryos. (November)
- . Completed preliminary study of organochlorine contamination in eggs of orchard nesting birds in the Okanagan Valley. (September)

Prairie and Northern Region

- . Evaluated the effects of lead shot on predators (eagles).
- . Assessed crippling rates of steel vs lead shot.
- . Participated with Agriculture Canada in the evaluation of insecticides on grassland birds, pheasants, song birds and Burrowing Owls.
- . Carried out studies on the effects of herbicides on aquatic food webs.
- . Advised and carried out research related to the Northern Rivers Basin Study aimed at evaluating the cumulative impacts from all stressors.
- . Examined the appropriateness of the tree swallow as an indicator of riparian wildlife exposure to pulp and paper mill effluents, in an on-going study on the Wapiti River near Grande Prairie, Alberta. The purpose of the study is to assess whether existing Environmental Effects Monitoring guidelines for aquatic biota are adequate for interpreting potential effects of pulp and paper mill effluents on riparian wildlife that prey on aquatic biota. (From *Canadian Environmental Protection Act* Annual Report 1993-94)
- . An examination of the potential effects of mercury in fish-eating birds in Manitoba and Saskatchewan concluded that the risk of adverse effects is low, with the possible exception of certain lakes in the Churchill-Nelson River system as well as a small number of other lakes in the two provinces. Data were however lacking for several of the prairie lakes. (From *Canadian Environmental Protection Act* Annual Report 1993-94)

Ontario Region

- . Maintained oiled bird cleaning equipment and supplies at various locations around the Great Lakes for the initial cleaning of birds oiled during emergency spill situations.
- . Collaborated with researchers from the University of Windsor and McGill University on a study of the effects of zebra mussels on contaminant dynamics in fish-eating birds and diving ducks in Lake Erie. (From *Canadian Environmental Protection Act* Annual Report 1993-94)
- . Conducted a study on the effects of mercury exposure on common loons, which indicated that a significant proportion of lakes in central and northern Ontario have small fish with mercury concentrations sufficiently high to be a concern for loon reproductive success.
- . Used tree swallows as biomonitors of contamination in wetlands associated with two Areas of Concern in Ontario on the Great Lakes. Data collected will be compared to that collected after remediation of the contaminant problems at these sites. Studies continued on the dynamics of chlorinated hydrocarbons in the common snapping turtle, another indicator of the health of wetland habitats. (From *Canadian Environmental Protection Act* Annual Report 1993-94)
- . Produced a report on wetland biomonitors for the Great Lakes.
- . Continued to monitor levels of toxic contaminants and their effects on fish-eating birds and other wildlife around the Great Lakes.

Quebec Region

- . Continued studies on the selection of wildlife indicators of the health of the St. Lawrence River with the emphasis this year being on the Great Blue Heron and Black-crowned Night Heron.
- . A study on the exposure of wildlife to pulp and paper mill effluent on the Saint-Maurice River in Quebec indicated that herring gulls, mergansers and mink contained low levels of dioxins and furans, however, no effect on their health was observed. Analysis of frogs and shrews collected near the site of the 1990 Saint-Amable tire fire indicated that these animals contained very low levels of toxic substances liberated by the fire. (From *Canadian Environmental Protection Act* Annual Report 1993-94)
- . Impact study on pesticides. Project started in 1992 and ending in 1994.

Atlantic Region

- . Prepared listings of key habitats for migratory birds in each Province and drafted Habitat Protection Plan for Prince Edward Island.
- . Initiated studies at five Atlantic Coastal Action Plan (ACAP) priority sites to monitor toxics and wildlife. The results of the surveys will be used to determine which species are appropriate indicators for contaminant exposure and for demonstrating the effectiveness of remedial action. In addition, at these sites, CWS is studying the feasibility of using tree swallows as indicators and a volunteer network is being used to monitor the reproductive success of this species at the contaminated sites. (From *CEPA* Annual Report 1993-94)
- . Directly participated as the Environment Canada "window" at the Bedeque Bay Atlantic Coastal Action Plan site on Prince Edward Island.

- Initiated compiling of a Geographic Information System (GIS) compatible database of key migratory bird habitats.

Headquarters

- Participated in several major research, monitoring, and assessment projects aimed at assessing effects of contaminants on wildlife and their ecosystems throughout Canada.
- Played a major role in developing guidelines for oil spill response plans, with Environmental Protection and Canadian Coast Guard, particularly for the protection of environmentally-sensitive resources. Several CWS regional offices have mapped on GIS both species distribution and abundance as well as habitat types on the coasts of Canada including the Great Lakes. All of this work falls within the context of the Canada Shipping Act amendments.
- Published, in cooperation with the Canadian Museum of Nature and the North American Wetlands Conservation Council of Canada, "Invasive Plants of Natural Habitats in Canada". The report highlights the impact of alien plants on Canadian ecosystems and biodiversity. (March)

OBJECTIVE V: To contribute to the conservation of wildlife habitat internationally.

Strategy V (10): CWS will contribute to the conservation of wildlife habitat internationally.

Pacific and Yukon Region

- In cooperation with British Columbia, nominated the Creston Valley Wildlife Management Area as a Wetland of International Importance under the Ramsar Convention. (November)
- Completed documentation for application for Ramsar status of Boundary Bay and referred it to British Columbia. (April)
- Completed scientific exchange of 3 Canadian scientists to Russian Far East Nature Reserves. (September). This was under the auspices of the Canada/Russia agreement to exchange information on northern science.
- With our partners, published the "Pacific Coast Joint Venture Strategic Plan", a plan to protect and manage important wetlands and related habitats on the Pacific Coast from northern California to northern British Columbia. (September)
- Completed a report on the sensitive habitats of the Porcupine Caribou herd, for the International Porcupine Caribou Board.

Prairie and Northern Region

- Identified several prairie sites as potential nominees for designation under the Western Hemisphere Shorebird Reserve Network.
- Nominated the Quill Lakes area of Saskatchewan as an International Reserve under the Western Hemisphere Shorebird Reserve Network, in partnership with the Province.
- Nominated the Last Mountain Lake National Wildlife Area as a Regional Reserve under the Western Hemisphere Shorebird Reserve Network (WHSRN), with the Province. It will be

considered for designation at the February 1994 WHSRN meeting.

Ontario Region

- . Ongoing management of Ramsar sites are located at two National Wildlife Areas: St. Clair and Long Point.
- . The Long Point NWA is the core protected zone of the Long Point Biosphere Reserve (Man and the Biosphere Program of UNESCO). Through application to the Great Lakes Cleanup Fund (DOE), CWS had the Biosphere Committee prepare a Community Action Plan for the Long Point area.

Atlantic Region

- . Established, in cooperation with the Province of New Brunswick, the Tabusintac Lagoon, New Brunswick, as a Wetland of International Importance under the Ramsar Convention. (June 1993)
- . Drafted a Management Plan for the Minas Basin Ramsar/WHSRN site in Nova Scotia and for a portion of the Shepody Bay Ramsar/WHSRN site in New Brunswick.
- . Listed candidate sites for potential Western Hemisphere Shorebird Reserve Network (WHSRN) sites in each of the four Atlantic Provinces.
- . Completed a report on investigations of shorebird use of rice field habitats in Suriname, South America.

Headquarters

- . Provided the interim International Secretariat to the Agreement on Conservation of Arctic Flora and Fauna which involves eight arctic countries. Provided Canadian input to the eight-country draft report on "The State of Habitat Protection in the Arctic" (Second draft, September)
- . Coordinated the Canadian Ramsar program, for sites on lands under various ownership: federal, provincial, territorial, aboriginal, etc. and forwarded proposals for designations to the Ramsar International Bureau in Switzerland. (Ongoing)
- . Prepared the Canada national report and the North American regional report for the Ramsar International Conference in Kushiro, Japan. Hosted a workshop on the development of national wetland policies at the Kushiro conference. (June)
- . Developed a policy statement on nomination and designation of Canadian Ramsar sites, which was circulated to all provincial and CWS wildlife directors. (September)
- . Contributed to the development of a Canadian Biodiversity Strategy which will provide direction for implementing the terms of the Convention in Canada (ongoing). In support of the development of this Strategy, CWS helped to organize focus groups on specific issues: private lands, endangered species, monitoring.
- . Supported (funding and technical support) research projects in Latin and Central America through the Latin American Program.
- . Developed a management guide for the conservation of Mexican coastal wetland habitats under the Mexico/Canada/USA Tripartite Agreement.

- Co-sponsored, with the North American Wetlands Conservation Council (Canada) and other agencies, a report on wetland conservation in Central America.
- Produced a joint US/Canada progress report on NAWMP, and a national progress report on the expenditure of Canadian and American NAWMP funds in Canada and the corresponding accomplishments.

OBJECTIVE VI:	To support and promote the development of scientific expertise to improve the technical base for habitat conservation.
Strategy VI (11):	CWS will maintain and where necessary upgrade its scientific capabilities vis-a-vis wildlife habitat conservation.

Pacific and Yukon Region

- Held a scientific workshop on riparian zones to bring together all known knowledge on the function of riparian areas, species dependencies, and guidelines for sustainability. (May)
- Established CWS/Simon Fraser University Wildlife Ecology Research Chair. The wildlife ecology research centre will address wildlife priorities in estuarine systems from an ecological and behavioral perspective.
- Signed agreement with the British Columbia Conservation Foundation (BCCF) to complete the final year of study of Red-naped Sapsucker biology, habitat characteristics, and use of sapsucker nest cavities by secondary cavity-nesting birds, near Cache Creek, British Columbia. (April)
- With British Columbia Ministry of Forests, engaged in research based on new techniques to identify the nesting requirements, marine habitats, and population dynamics of the Marbled Murrelet, a threatened species. (initiated July)
- Acquired advanced remote-sensing expertise and capabilities in CWS Whitehorse office through software and hardware acquisition, and training, through participation in the Technology Enhancement program of the Canada Centre for Remote Sensing. (May)
- Enhanced Geographic Information System (GIS) capabilities and GIS/Remote Sensing interfacing in the CWS Whitehorse office. (November)
- Developed and used computer simulation models to help assess the impacts of climate change and hydrocarbon development on the Porcupine Caribou herd.
- Through agreement with the British Columbia Conservation Foundation, continued support and participated in vegetation management biodiversity study in the Upper Shuswap area.
- Through multiyear agreement with the British Columbia Conservation Foundation, continued support of Ministry of Forests applied study of habitat/foraging requirements of primary cavity nesters in the Kamloops Forest Region.
- Developed a plan to document forestry/forest bird relations in southeast Yukon in cooperation with the Kaska-Dene Tribal Council (November).
- Continue contribution to University of British Columbia Centre for Applied Conservation Biology to develop and test a landscape attribute dependency decision model.

- Published 2 satellite image poster maps at a scale of 1:250,000 on land use and vegetation in the Cariboo Region of British Columbia (June).
- Co-authored an Evaluation Plan for the Pacific Coast Joint Venture (September).

Prairie and Northern Region

- CWS Saskatoon are participating on the Prince Albert Model Forest initiative, and is undertaking research on a number of issues, such as the effects of Btk (Bacillus thuringiensis var kurstaki) spraying on forest songbirds. This research represents the first study on this topic for the Boreal Mixed Wood Zone of Canada.

Ontario Region

- Continued forest bird monitoring program in the northern boreal forests and the southern hardwood forests.
- Initiated a marsh bird monitoring program, similar to the forest bird monitoring program and based on volunteer cooperators.
- Initiated work on alternate foraging sites for resident Canada Geese in order to both reduce crop depredation and conserve wetlands in southern Ontario, through the Wetlands, Woodlands, Wildlife Program (see Strategy 4), and in cooperation with Ducks Unlimited and the Ontario Ministry on Natural Resources Research Branch.
- Utilized St. Clair, Big Creek and Long Point NWAs to facilitate and cooperate with a variety of research topics including: Lyme disease/tick ecology; Mallard, Black Duck hybridization; Southern James Bay, giant Canada Goose ecology; marsh bird monitoring, beach/dune formation at Long Point. Research was conducted by both university and government personnel.

Quebec Region

- Acquired necessary equipment (computers + software) for teledetection operations. Hiring of a specialized person in that field for CWS - Quebec Region.
- Purchased four Landsat-TM boreal forest images for the eventual mapping of the Black Duck distribution and for other species habitats.

Atlantic Region

- Completed a four year study on the effects of timing and duration of drawdowns on wetland productivity.
- Helped fund the final year of a major research program to test the effects of artificially fertilizing unproductive headwater wetlands.
- Helped develop an Evaluation Plan for the Eastern Habitat Joint Venture.
- Continued developing an Atlantic Cooperative Wildlife Ecology Research Network (ACWERN) in cooperation with three Atlantic Region universities and other partners as a regional research network focused on wildlife ecology in the marine, coastal and terrestrial ecosystems, to address fundamental and applied problems in wildlife ecology and habitat relationships.

Headquarters

- Undertook gap analysis, in co-operation with SOER, to do initial assessments for priority landscapes (September). The goal is to accelerate the conservation of critical wildlife habitat: forests and wetlands. CWS coordinated the acquisition of data bases pertaining to wetland and forested protected areas (e.g. from Forestry Canada), for addition to SOER's National Conservation Areas Data Base.
- Developed a National Reporting System for the North American Waterfowl Management Plan, and through the North American Wetlands Conservation Council (Canada), developed a NAWMP project sites geographic data base.
- Co-sponsored, with the North American Wetlands Conservation Council (Canada), the development and publication of reports dealing with wetland topics. These included a wetland evaluation guide, a discussion paper on "no net loss of wetland function", and a national review of the status of wetland policies in the public and private sector.
- Co-sponsored, with Wildlife Habitat Canada and the Province of Manitoba, the first National Wildlife Habitat Workshop, to exchange technical information and improve habitat practitioners' skills in Canada (April).

OBJECTIVE VII: To ensure that the importance of wildlife habitat in Canada is promoted.

Strategy VII (12): CWS will actively promote the importance of wildlife habitat in Canada.

Pacific and Yukon Region

- Published a newsletter entitled the New Parallel Runway Habitat Compensation Program. (September)
- Held a dedication ceremony, with partners, of the Salmon River Delta demonstration project under the Fraser River Action Plan. (September)
- Participated in a forum to discuss protected areas north of 60 degrees, held in Whitehorse, Yukon. (February)
- Co-funded a symposium on the status and preservation of Garry Oak meadows, with the Garry Oak Meadows Preservation Society. (March)
- Co-hosted, with the British Columbia Waterfowl Society, the annual Snow Goose Festival at Alaksen National Wildlife Area and Reifel Bird Sanctuary. (November)
- Promoted and participated in the Brant Festival, held at Parksville and Qualicum Beach, British Columbia. (April)

Prairie and Northern Region

- Initiated work on the creation of a mobile, multi-subject display for use in northern communities. The display's primary purpose is to create awareness of CWS' commitment to co-management of migratory bird resources with land claim beneficiaries in the north. An alternate theme to be developed will deal with CWS protected areas in the north.
- Produced ten Hinterland Who's Who public service announcements in Inuktitut, the

language of the eastern and central Arctic.

- . Published the Caribou and Polar Bear Hinterland Who's Who pamphlets in Inuktitut.
- . Delivered presentations at national workshops, conferences, etc. on protected areas, lakeshore management, caribou, etc.

Ontario Region

- . Started work on developing a public awareness pamphlet for Big Creek NWA.
- . Participated actively in both the Best Management Practices program and the Environmental Farm Plan initiative to ensure that wildlife habitat conservation is incorporated in sustainable agriculture.
- . Developed, managed and administered the Ontario Wetlands, Woodlands, Wildlife Program which established 10 on-farm demonstration projects that include such things as tours and news releases, as well as an information/technology transfer component that funds the development of a Wildlife Best Management Practice.
- . Produced an informative poster on summer waterbird usage of Severn Sound, in partnership with Wye Marsh and the Severn Sound Remedial Action Plan.
- . Co-authored the SOE Fact Sheet on "Bringing the Bald Eagle back to Lake Erie".
- . Contributed information for the TV Ontario Global Family Series on the "Osprey: Sentinel of the Great Lakes" (November).

Quebec Region

- . Published the bulletin "Habitats" three times a year, which informs 1000 subscribers about different habitats conservation, management and restoration projects in Quebec.
- . Continued distribution of the leaflet on Quebec NWAs and published a leaflet on Cap Tourmente NWA.
- . Published reports for three NWAs on their history and biological resources.

Atlantic Region

- . Contributed to landowner contact programs in NS and PEI via the Eastern Habitat Joint Venture Stewardship programs.
- . Assisted with the preparation and production of newsletters highlighting the activities under the Eastern Habitat Joint Venture and the Atlantic Region Protected Areas Working Group.
- . Organized two workshops on protected areas in the Atlantic Region, which involved all non-government organizations and government agencies that have an involvement in protected/conservation areas.
- . Organized a workshop on management of internationally important shorebird habitats.

Headquarters

- . Produced "Communications Products Catalog: North American Waterfowl Management

Plan". (NAWMP International Communication Committee). The catalog lists Canadian and American publications, audiovisuals, etc. related to NAWMP (June).

- Coordinated international/national regional NAWMP communications plans and activities, including the publication of a Canadian NAWMP Accomplishment Report, and a new edition of the Canadian NAWMP projects factsheets.

- Developed and implemented a NAWMP education program to ensure better decision-making regarding wetlands conservation, including production of an educational pamphlet and poster about NAWMP and wetlands for the public.

- Published "The Importance of Wildlife to Canadians: Highlights of the 1991 Survey". The report estimated that \$1.2 billion were spent by Canadians to maintain, improve or purchase natural areas to provide food or shelter for wildlife.

- Co-operated with the Environmental Citizenship Program of Environment Canada, in the development of an information book, entitled "The Nature of Canada: A Primer on Spaces and Species". The primer is for use in schools and public interpretation programs.

- Co-sponsored the publication and distribution of information brochures on Purple Loosestrife, an invasive plant that is threatening wetland ecosystems nationally.

- Co-sponsored the international Sustainable Forest Research Seminar, held in Montreal (September 1993)

- Co-sponsored a "National Workshop on Wetland Data Integration", with the North American Wetlands Conservation Council of Canada, State of Environment Reporting, and the Ecosystem Science and Evaluation Directorate of Environment Canada (October); and co-published a summary report of the workshop.

APPENDIX to Part B - REPORTS**

(some examples)

** For additional information, consult the Canadian Wildlife Service Publications list -- a cumulative listing of headquarters and some regional publications, which is available from CWS Publications, (Tel) 819-997-1095.

Pacific and Yukon Region

- . Butler, R.W., N.K. Dawe, A. Reed, J. Sirois and H. Blokpoel. 1993. Estuaries: habitat for wildlife. Hinterland Who's Who. 6 p.
- . Dawe, N.K. and J.D. McIntosh. 1993. Vegetation change following dyke breaching on the English River estuary, Vancouver Island, British Columbia: a multivariate analysis. Technical Report 175. 43 p.
- . Hayes, P., B. Matsuda, K. Summers. 1993. Critical Waterfowl Habitats in British Columbia. CWS Technical Report Series No. 183.
- . Vermeer, K., K. Briggs, K. Morgan and D. Siegel-Causey. 1993. The Status, Ecology, and Conservation of Marine Birds of the North Pacific. CWS Special Publication. 263 p.
- . Vermeer, K., K.T. Briggs, K.H. Morgan and D. Siegel-Causey (eds). 1993. The ecology, status and conservation of marine and shoreline birds on the west coast of Vancouver Island. Occasional Paper 75. 136 p.
- . "The Range Ecology of the Porcupine Caribou Herd in Canada". Monograph published in an international journal. (August 1993)

Prairie and Northern Region

- . Woo, M., R.D. Rowsell and R.G. Clark. 1993. Hydrological classification of Canadian prairie wetlands and prediction of wetland inundation in response to climate variability. Occasional Paper 79. 24 p.

Ontario Region

- . Hebert, C.E. et al. 1993. Evaluation of Wetland Biomonitors for the Great Lakes: A Review of Contaminant Levels and Effects in Five Vertebrate Classes. CWS Tech. Report Series #182.
- . An Atlas of Contaminants in Eggs of Fish-eating Birds of the Great Lakes (1970-88). Volume I: Account by Species and Locations. CWS Technical Report Series # 152. Volume II: Accounts by Chemicals. CWS Tech. Report Series # 153.

Quebec Region

- . Argus, inc., 1993. Mise en place de structures expérimentales de protection du marais de Contrecoeur, avis de projet. Rapport présenté au CSL, SCF, SEBJ et MTQ, 22p.
- . Argus, inc., 1993. Projet pilote d'aménagement d'une tourbière à l'Île-Verte. Rapport présenté au SCF, CSL, SEBJ et MTQ, 17p.

- . Argus inc., 1993. Stabilisation des berges de la rive sud de l'Île aux Corbeaux par des techniques d'éco-ingénierie. Rapport de suivi présenté au SCF, CSL, SEBJ et MTQ, 12p.
- . Champoux, L., 1993. Contamination et écotoxicologie de la faune dans la région d'une usine de pâte blanchie au chlore à La Tuque (Québec). Série de rapports techniques no. 187, Service canadien de la faune.
- . Champoux, L. et N. Plante, 1993. Contamination de la faune locale suite à l'incendie de pneus de Saint-Amable. Série de rapports techniques no. 188, Service canadien de la faune.
- . De Repentigny, L.G., août 1993. Historique et ressources biologiques de la Réserve nationale de faune de la Pointe de l'Est.
- . De Repentigny, L.G., juin 1993. Histoire et ressources biologique de la Réserve de faune des îles de l'estuaire.
- . De Repentigny, L.G., juin 1993. Histoire et ressources biologiques de la Réserve nationale de faune de Pointe-au-Père.
- . Giroux, Jean-François et M. Picard, 1993. Utilisation de l'habitat par les couvées de canards à la Réserve nationale de faune des Îles de Contrecoeur. Rapport présenté au SCF par UQAM, 32p.
- . Grenier, M., Bordage, D. Plante, N. et Fragnier, P. Caractérisation des habitats propices à la reproduction de la sauvagine à l'aide d'images Landsat-TM. 16^e Symposium canadien sur la télédétection et 8^e Congrès de l'Association québécoise de télédétection, 1993.
- . Lalumière, R. et C. Lemieux, 1993. Guide de transplantation de la Zostère marine. Rapport présenté au Service canadien de la faune par le Groupe Environnement Shooner inc., 16p.
- . Lalumière, R. et C. Lemieux, 1993. Suivi des essais de transplantation de Zostère marine et l'Île-Verte (Québec 1992). Contrat accordé au Groupe Environnement Shooner inc. par le Service canadien de la faune, 14p.
- . Lalumière, R. et C. Lemieux, 1993. Suivi des essais de transplantation de Zostère marine à l'Île-Verte (Québec 91).
- . Lefebvre, Josée et Jean-François Giroux, février 1993. Étude du Régime alimentaire du Goéland à bec cerclé à la Réserve nationale de faune des Îles de Contrecoeur.

Headquarters

- . Environment Canada. (draft, 1993). "The Nature of Canada: A Primer on Spaces and Species".
- . Environment Canada, Canadian Wildlife Service (compiler). June 1993. Fifth Conference of the Parties to the Ramsar Convention on Wetlands of International Importance. 1993 North American Ramsar Regional Report. Compiled on behalf of the Governments of Canada, Mexico and the United States of America.
- . Environment Canada, Canadian Wildlife Service. June 1993. Fifth Conference of the Parties to the Ramsar Convention on Wetlands of International Importance. Kushiro, Japan, June 1993. 1993 National Report for Canada.

- . Environment Canada/CWS with the USFWS. 1993. "NAWMP: A Review of the First Five Years".
- . Environment Canada (CWS), NAWCC (Canada) and the Canadian Museum of Nature. 1993. "Invasive Plants of Natural Habitats in Canada". 121 p.
- . Filion, F.L. et al. 1993. The importance of wildlife to Canadians: highlights of the 1991 survey. 60 p.
- . Kennedy, J.A. and S. Nadeau. 1993. Lead shot contamination of waterfowl and their habitats in Canada. Technical Report 164. 109 p.
- . Lynch-Stewart, P. 1993. "A Coming of Age: Policy for Wetland Conservation in Canada". NAWCC(C) Report No. 93-1. 57 p.
- . Lynch-Stewart, P. and C.D.A. Rubec (compilers). 1993. "Summary Report of the National Workshop on Wetland Data Integration". Published by Environment Canada (CWS, SOER, ESED) and NAWCC(C). NAWCC(C) Report No. 93-2. 15 p.
- . Wetland Conservation in Central America. 1993. Report No. 93-3 of the North American Wetlands Conservation Council (Canada), published in partnership with Wetlands for the Americas, Wildlife Habitat Canada, Canadian Wildlife Service of Environment Canada, Canadian International Development Agency, and the Regional Office for Central America of the World Conservation Union (IUCN).

PART C**1994-95 Major Plans**

*for further implementing
"An Action Plan For Wildlife Habitat
Conservation:
Canadian Wildlife Service"*

OBJECTIVE I: To maintain wildlife habitat throughout Canada in sufficient quantity and quality to support desired and sustainable wildlife population levels.

SUB-OBJECTIVE I: To maintain and/or enhance wildlife habitat on federal lands.

Strategy 1.1: CWS will establish and maintain key habitats in a national network of National Wildlife Areas.

Pacific and Yukon Region

- Complete management plan for Alaksen NWA.
- Complete transfer to CWS of Robertson Farm (31 ha), to extend Alaksen NWA, and Sea Island north (140 ha). These transfers were part of a no-net-loss habitat commitment from Vancouver International Airport third runway project.
- Complete management plan for Sea Island Conservation Area including public consultation process. (June)
- Achieve remaining no-net-loss habitat compensation for Vancouver International Airport third runway project, as new NWA.
- With the Teslin Renewable Resources Council, begin developing a management plan for Nisutlin River Delta NWA (January 1994). Formal designation of the NWA through Order-in-Council is anticipated for 1995.
- Complete an agreement with DND to create a national wildlife area at CFB Esquimalt, Nanoose Hill area to protect an endangered ecosystem. (July)
- Identify other candidates for national wildlife areas in the Yukon using the existing criteria. Gather additional data and documentation where necessary for likely candidates. (1994)
- Through the Yukon land claims forum and any other appropriate process, pursue the establishment of those NWAs where national wildlife area status is deemed to be the most appropriate form of protection.
- Assume the lead, directing a three-party negotiation on a management plan for the Old Crow Flats Special Management Area. (November)
- Negotiated agreement of the Maplewood Wildlife Conservation Area with the Wild Bird Trust of British Columbia. Other partners are The Vancouver Port Corporation and the District of North Vancouver.
- Begin research on swan and wigeon population interactions with agricultural lands in and around Alaksen NWA.

Prairie and Northern Region

- Produce a management plan for Nirjutiqavvik NWA.
- Create Igalirtuuq National Wildlife Area, and complete its management plan.
- Continue to meet with Keewatin Inuit Association, Nunavut Tungavuk Inc., and Coral Harbour re: protection of Coats Island.

- Make an initial presentation to the Broughton Island Hunters and Trappers Association regarding protection of Cape Searle and Reid Bay.
- Commence a two-year field project in the Rasmussen Lowlands. The Lowlands is a Ramsar site, a key migratory habitat site and is a priority site for protection by CWS. The study will focus on shorebirds and their habitat. The purpose is to update bird distribution data and to confirm the "key habitat site" boundary, preparatory to community consultations regarding protection of the Lowlands.
- Conduct a reconnaissance of Creswell Bay, Somerset Island in Summer 1994 as preparation for more detailed assessment of this site as a nesting and staging site for shorebirds and waterfowl and as an offshore feeding area for the seabirds and whales.
- Determine the importance of Mills Lake as a staging and nesting area for Western Arctic waterfowl.
- Other areas targetted for field work in the future include Creswell Bay and Foxe Basin.
- Designate Last Mountain Lake as Canada's 46th National Wildlife Area, to protect over 15,600 hectares of critical waterfowl and shorebird habitat, including habitat for several endangered species. (August)
- Complete the surveying and documentation of the boundaries for the future Suffield National Wildlife Area in June 1994.
- Pursue formal designation of the proposed NWA at CFB Suffield through Order-in-Council, targetted for 1996.
- Preparation of a management plan will follow designation of the Suffield NWA, to set the primary ecological direction for the conservation area. Field work will commence in 1994 and continue through 1995 to conduct an ecological land survey and develop an ecological classification for the NWA.

Ontario Region

- Continue effective implementation of approved NWA management plans, which includes habitat management through water level manipulation at St. Clair and deer population control at Long Point.
- Finalize and print a public awareness pamphlet for Big Creek NWA.
- Initiate a review and revision of Long Point, Big Creek and St. Clair NWA management plans.
- Provide logistical support and cooperate with University of Guelph researchers working on the biological control of purple loosestrife.

Quebec Region

- During Phase II of the St. Lawrence Action Plan (1993 - 2000), an additional 7000 ha or more of critical habitat are to be acquired.
- Continue the NWA network consolidation within the St. Lawrence Action Plan through acquisition of private lands and transfer or agreements with other federal departments.

- . Write consolidation plans for Pointe de l'Est, Pointe-au-Père and Lac Saint-François NWAs. The Pointe de l'Est and Pointe-au-Père acquisition project will be initiated.
- . Improvements and restorations were made to the reception infrastructure in Lac Saint-François, Baie de l'Île-Verte and Pointe de l'Est NWA.
- . Begin waterfowl inventory work in Cap Tourmente.
- . Continue the regulatory amendments in order to include recently acquired lands in the legal descriptions of existing NWAs. Four NWAs are scheduled to be enlarged in 1995 through amendment of the Wildlife Area Regulations, and others in following years. Preparation of a communication plan and a new legal description for Baie de l'Île-Verte and Contrecoeur Islands NWA's.
- . Begin a review of NWA management plans.
- . Initiate the process to designate two new NWAs.
- . Update list of federal properties in Quebec.

Atlantic Region

- . Annual maintenance and management activities, facilities improvements at all NWA sites.
- . Annual monitoring of the 54 controlled water level impoundments within 6 of the NWA areas.
- . Annual issuance of permits, and routine inspection and enforcement activities, including monitoring of special regulations and non-toxic shot zones at Wallace Bay and Shepody NWAs.
- . Final report on habitat research to evaluate wetlands management programs. (Effect of drawdown on impoundment productivity).
- . Ensure that the biological integrity of the Cape Jourimain NWA is not altered as a result of the Fixed Link construction to Prince Edward Island.
- . Finalize management plans for Portage Island and Boot Island National Wildlife Areas, and update management plans for Shepody and Tintamarre NWAs.
- . Draft a systems plan for maritime NWAs and recommend infilling or additions of key habitat components.
- . Revise Regulatory Impact Analysis Statement, Communications Plan and legal descriptions for Tintamarre and Shepody NWAs, in order to include areas to be added to the existing NWAs.

Headquarters

- . Finalize "Criteria for Selection of Candidate National Wildlife Areas" (February 1994).
- . Continue to process regulatory requirements for about ten NWAs, to be consolidated through infilling or extending boundaries over the next several years. Amendment of the Wildlife Area Regulations under the Canada Wildlife Act is required.

- Publish proposed Wildlife Area Regulations to allow for the establishment of NWAs at Portobello Creek, Nirjutiqavvik and Nisutlin River Delta. (Canada Gazette I for early 1995)
- Pursue amendments to the Canada Wildlife Act to broaden the definition of wildlife to include all wild organisms both plant and animal, to allow for the creation of protected marine areas out to the 200-nautical mile limit, and to increase penalties for infractions of regulations. (June 1994)
- Very few (six) comments were received on the Canadian Wildlife Service Regulatory Review Discussion Document, released in November 1993 for public review. The Discussion Document is therefore considered as outlining CWS final recommendations on how to revise the regulations under the Canada Wildlife Act and Migratory Birds Convention Act. Work is underway to revise the regulations.

SUB-OBJECTIVE 1: To maintain and/or enhance wildlife habitat on federal lands.

Strategy 1.2: CWS will establish and maintain a network of Migratory Bird Sanctuaries.

Pacific and Yukon Region

- Negotiate agreement to manage George C. Reifel Migratory Bird Sanctuary and its interpretation program. (March 1994)
- Plans are underway to reduce the size of Shoal Harbour MBS. (1996 or later)

Prairie and Northern Region

- Plans are being made to delist the Cape Dorset Migratory Bird Sanctuary. Eider duck use of the sanctuary area is low; however, eider duck colonies are plentiful in the region along parts of the coast further away from the townsite of Cape Dorset.
- Undertake a boundary review of Queen Maud Gulf, Dewey-Soper, McConnell River, Harry Gibbons, and East Bay MBSs.

Ontario Region

- The migratory bird sanctuary status of three MBSs (Fielding, Guelph and Young Lake) is to be revoked. These areas no longer serve the conservation purpose for which they were established. (November 1994)
- Review existing MBSs to rationalize continuation or delist as appropriate.

Quebec Region

- Designation of a new Migratory Bird Sanctuary for Gros Mécatina (Murre Rock) is anticipated for 1995.
- Pursue a revision to the size of the Montmagny Bird Sanctuary to improve Snow Geese hunting management by the waterfowl ZEC (zone of controlled exploitation) of Montmagny.
- For five areas having status as both a NWA and a MBS, the MBS designation will be revoked, to avoid double (MBS/NWA) status: Île Blanche, Île aux Fraises, Kamouraska, Île du Pot à l'Eau de Vie, as well as Îles Pèlerin. These sites are now part of the Îles de l'Estuaire

National Wildlife Area.

- . Sanctuary status for the Îles de la Paix MBS will be revoked as the area now has NWA status. The Île Saint-Ours Migratory Bird Sanctuary will be abolished, because the site has been added to Contrecoeur National Wildlife Area.
- . In order to allow for better on-site identification, the eastern limit of the Île Carillon Migratory Bird Sanctuary is being reviewed.

Atlantic Region

- . Annual administration, staffing and regulation of the Machias Seal Island MBS.
- . Draft a management plan for Machias Seal Island MBS.
- . Annual maintenance and boundary work at all sites.
- . Annual populations monitoring of Canada Goose and Black Duck use of Sanctuaries in southwest Nova Scotia .
- . Initiate the RIAS process for the proposed MBS site at Inkerman, New Brunswick.
- . Implement the recommendations/actions from the Port Joli review.
- . List potential sites for MBS's and build those needs into Provincial Habitat Protection Plans for key migratory bird habitats.

Headquarters

- . Participate in legal requirements with the Department of Justice pertaining to the proposed delisting of MBSs (9 sites scheduled for 1995, including sites listed above) and develop a communications strategy for this relative to the protected areas program. (1994-95)
- . Pursue amendments to the Migratory Birds Convention Act to strengthen MBS regulations by increasing penalties for offences, modernizing and streamlining the administrative and implementation procedures, including use of enforcement powers and the designation of officers, and clarify terms and procedures to meet migratory bird and wildlife conservation needs. (June 1994)

SUB-OBJECTIVE I: To maintain and/or enhance wildlife habitat on federal lands.

Strategy 1.3: CWS will actively seek the cooperation of the Canadian Parks Service to ensure the continued maintenance of key habitats within National Parks.

Pacific and Yukon Region

- . Complete report on breeding migratory birds on Yukon Coast Plain. (March 1994)
- . Assist Jasper National Park with Harlequin duck banding and conservation efforts.

Prairie and Northern Region

- . Provide a research scientist to collaborate with Parks Canada and Banff National Park on moose habitat studies for the Bow Valley Ecosystem Study. (June 1994)
- . Continue to work on caribou habitat research, some of this in conjunction with Parks Canada. One product will be a report to Jasper National Park expected this year. (July 1994)
- . An MOU is under development between CWS and Parks Canada to facilitate cooperative efforts in wildlife management in and around Wood Buffalo National Park.

Ontario Region

- . Through Great Lakes 2000 and the Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem, CWS, Parks Canada and the Province will begin planning to secure a network of protected areas in the Great Lakes Basin. (September 1994)

Quebec Region

- . Conduct a study of the diet of the Double-crested Cormorant and Herring Gull in the Saint Lawrence Estuary, more specifically in the Saguenay Marine Park area - joint project with Parks Canada.
- . Explore with Parks Canada the possibility of cooperation in the development of an island thematic in Saguenay Marine Park, in which sites of the Îles de l'Estuaire NWA are situated.
- . Collaborate with Parks Canada towards the opportunity to create a Regional Reserve under the Western Hemisphere Shorebird Reserve Network, at Ile Rouge (Transport Canada); this is situated in the limits of the Marine Park.
- . Within the framework of negotiations with the Attikamek-Montagnais, discussions were initiated by Parks Canada concerning the Watshishou Sanctuary limits, in the area of Mingan Park. The sanctuary dimensions could be adapted to provide hunting opportunities for the aboriginal community of Pointe-Parent.
- . Discussions are ongoing to examine the possibility of using the Migratory Birds Convention Act and the Migratory Birds Regulations (as well as the Canada Wildlife Act and the designation of a National Wildlife Area) to achieve the conservation objectives of the new Saguenay Marine Park.
- . Continue to cooperate with Parks Canada in the collection of biological information in the Mingan, Saguenay and Mauricie National Park sectors.

Atlantic Region

- . Seek assistance from Parks Canada in examining protection options for Sable Island, N.S. (August)
- . Continue research and monitoring of Common Loons breeding at Kejimikujik National Park. (May-August)
- . Continue liaison with Parks staff concerning the protection of Piping Plover and Common Tern nesting areas. (June-July)

- Participate with Parks Canada representative and others on a Federal Protected Areas Working Group and the Atlantic Canada Tern Working Group.

Headquarters

- CWS (for Environment Canada) and Parks Canada are developing a MOU to lay out areas for CWS/EC-Parks cooperation in protecting, conserving and restoring Canada's ecosystems. This MOU follows on the departure of Parks Canada from Environment Canada in 1993 during the re-structuring exercise. (Summer 1994).
- Ongoing participation with Parks Canada on the Protected Areas Working Group. Expand membership of the Group to include Fisheries and Oceans Canada and the Canadian Forest Service.

SUB-OBJECTIVE I: To maintain and/or enhance wildlife habitat on federal lands.

Strategy 1.4: CWS will actively promote the protection, maintenance, enhancement and management of wildlife habitat on other federal lands.

Pacific and Yukon Region

- Continue ecological assessment of DND lands and other federal properties in British Columbia and act as a wildlife agency of record for advice and recommendations on activities.
- Conduct research on plant ecology in Osoyoos desert ecosystems in cooperation with Osoyoos Indian Band.
- Publish a state-of-knowledge report on CFB Esquimalt Lands on Southern Vancouver Island. (April 1994)
- Negotiate with Ministry of Transport and Public Works Canada on disposal of Salmo Airport lands and application of "no net loss of wetland function" under the Federal Wetlands Conservation Policy.

Prairie and Northern Region

- Conservation of Saskatchewan's Forest Ecosystems.
- An impending agreement with DND will see CWS manage the CFB Dundurn IBP forest.

Ontario Region

- Develop a list of wetland enhancement and management opportunities on federal lands in the lower Great Lakes Basin, as part of Great Lakes 2000: Great Lakes Wetlands Conservation Action Plan (October 1994).

Quebec Region

- Identification and evaluation of wildlife habitats located on other federal lands have begun and will continue until 1994-1995.
- Attempt to establish memoranda of understanding with other federal departments that have

important habitats on their lands, in order to protect and manage these wildlife habitats in an effective way.

Atlantic Region

- Provide advice to Transport Canada and DND on the management of airports to avoid plane-bird problems. (Ongoing)
- Work with Transport Canada towards the creation of a National Wildlife Area for Sable Island, currently a Migratory Bird Sanctuary.

Headquarters

- Produce a federal guideline regarding how to implement the Federal Policy on Wetland Conservation (Fall 1994).
- Continue to provide advisory services to other federal departments re application of the Federal Policy on Wetland Conservation and use of the Wetland Evaluation Guide, e.g. National Capital Commission, CMHC, National Transportation Agency, Parks Canada, Transport Canada. (Ongoing)
- Continue to work with the Department of National Defence, Natural Resources Canada (Canadian Forest Service) and Transport Canada towards development of MOUs regarding habitat management on their lands: a) with DND - for CWS to act as their advisor and develop a generic agreement regarding habitat conservation opportunities on DND lands; b) with Natural Resources Canada (Canadian Forest Service) - how to do research and co-fund projects; and c) Transport Canada - re Long Point lands transfer to the Province of Ontario for conservation purposes.
- Continue to promote the Forest Strategy for Canada within the wildlife community. (Ongoing)

SUB-OBJECTIVE 2: To maintain or enhance wildlife habitat on northern lands, i.e. lands in Yukon and the Northwest Territories.

Strategy 2: CWS will contribute to the maintenance and/or enhancement of wildlife habitat on northern lands.

Pacific and Yukon Region

- In cooperation with the Yukon Government, Ducks Unlimited, and First Nations, continue to identify, prioritize, and develop action plans for key habitats in the Yukon.
- Share and interpret migratory bird information with Yukon First Nations, especially those which are still actively negotiating land claim settlements in areas with key habitats for migratory birds.
- In cooperation with the Vuntut Gwitchin First Nation, undertake to develop a management plan and program of cooperative migratory bird research and population monitoring on the Old Crow Flats Special Management Area. (January 1994)
- In cooperation with the Kaska-Dena Tribal Council, determine relationship between forestry practises and forest birds in the southeast Yukon.

- Pursue official designation of Nisutlin River Delta, Yukon, as a National Wildlife Area, anticipated for 1994-95. (See Strategy 1.1)
- Establish an ecological monitoring network in the Northern Yukon, in cooperation with the Wildlife Management Advisory Council . (September 1994)

Prairie and Northern Region

- Distribute the document "Habitat Conservation Strategy and Plan for the Northwest Territories", which sets out a strategy and plan which will guide CWS efforts in protecting migratory bird habitats in the Northwest Territories over the next 10 years.
- Pursue official designation of Igalirtuq and Nirjutiqavvik in the NWT as National Wildlife Areas. (See Strategy 1.1)
- Participate actively in developing a management plan for the Thelon Game Sanctuary in cooperation with the Inuit and the Government of the Northwest Territories.

Ontario Region

- Produce a first draft of the James Bay co-management agreement with Aboriginal peoples of James Bay, for the conservation of waterfowl, particularly Southern James Bay Canada geese. (Anticipated August/September 1994)

SUB-OBJECTIVE 3: To support the maintenance and/or enhancement of wildlife habitat on provincial Crown lands.

Strategy 3: CWS will contribute to the maintenance and/or enhancement of wildlife habitats on provincial Crown lands.

Pacific and Yukon Region

- Continue provision of funding, management direction and strategic planning for Creston Valley Wildlife Management Area.
- Continue threatened ecosystems study of east Vancouver Island.
- Participate as member of CORE (Commission on Resources and Environment) Advisory Forum on Land Use Planning in B.C.
- Become full partner in development of Provincial Land Use Strategy of B.C.
- Identify and rank Goal 2 candidates for protection under B.C. Protected Area Strategy for Vancouver Island and Lower Mainland.
- Complete wetlands inventory of the Comox Valley. (March 1996)
- Continue compilation and categorization of important bird areas in B.C. and Yukon, and produce a draft report. (March 1995)
- Continue studies on coastal marine and forest ecosystems to guide land use decision-making.

- . Continue to provide technical advice to B.C. Crown Lands re numerous land use applications with potential to impact migratory bird habitat.
- . Publish proceedings on science and management of riparian zones in B.C.
- . Publish a benchmark report entitled "Biodiversity in British Columbia: Our Changing Environment". (February 1994)

Prairie and Northern Region

- . Sign a one-year agreement for the "Critical Wildlife Habitat Program" designed to preserve tallgrass prairie in Manitoba, thereby extending the program to 1995. Signing of a further 5-year agreement is being sought. (March 1994)
- . Continue participation with the Saskatchewan Government in developing a coordinated land-use agreement for the sensitive Manitou Sandhills (provincial crown land). The plan would see traditional uses such as grazing and recreation maintained, new activities such as tourism and oil/gas reserves planned for and permitted in a sustainable manner while conserving the ecological integrity of the area. The process is being used as a model for other planning efforts throughout the province.
- . Continue survey of mixed grass prairie in selected provincial lands in western Manitoba.
- . Form a Prairie Ecozone Team to develop a prairie ecozone management plan. The plan will define how DOE uses the ecosystem approach in addressing prairie environmental issues. (April 1994)
- . Form an Arctic Ecozone Team to develop an arctic ecozone management plan (similar to that for the prairie ecozone).

Ontario Region

- . Implement Eastern Habitat Joint Venture environmental review process for all partner projects.

Quebec Region

- . Under Phase II of the St. Lawrence Action Plan, continue to financially support acquisition projects for provincial departments and organizations.
- . List of priority habitat sites for the Saint Lawrence. Revise for the SLAP II.

Atlantic Region

- . Contribute to the provinces' environmental assessment process. (Ongoing).
- . Direct involvement in the Fundy Model Forest and riparian wildlife habitat research.
- . Coordination of the Eastern Habitat Joint Venture wetland program under the North American Waterfowl Management Plan.
- . Annually participate with the Province of Newfoundland, and other partners, in a major Eider Duck recovery program located on crown lands off the coast of Newfoundland and in Table Bay, Labrador.

- Participation on Provincial steering committees, technical committees and site management committees (Grove Pine Prince Edward Island and Belle Isle N.S.) relative to the delivery and development/enhancement of specific wetland sites acquired under the Eastern Habitat Joint Venture. (Ongoing).
- Continue development of joint federal-provincial migratory bird habitat protection plans, for the four Atlantic Provinces.

Headquarters

- Continue to provide advice to New Brunswick on the development of both a wildlife and a wetland policy.
- Co-host a national workshop on wetland policy implementation in Winnipeg in June 1994, with DU, Habitat Heritage Corporation of Manitoba, Alberta Water Resources Commission and the North American Wetlands Conservation Council (Canada). Proceedings will be published in 1994-1995.
- Through the harmonization exercise, the Federal and Provincial governments are examining their respective roles and responsibilities for wildlife habitat conservation and other issues.
- Continue to provide advice to the provinces (Alberta, Saskatchewan, Newfoundland, New Brunswick) on the development of wetland policies.

SUB-OBJECTIVE 4: To support the maintenance and/or enhancement of wildlife habitat on municipal and private lands.

Strategy 4: CWS will contribute to the maintenance and/or enhancement of wildlife habitat on municipal and private lands.

Pacific and Yukon Region

- Continue Greenfields program. This is a four-year program with DU, begun in 1993, to plant crops on about 1200 hectares of private farmland in Delta and Surrey Municipalities, for soil improvement, and for staging wintering birds.
- Continue Nicola River Wetlands Project. This is an agreement with DU to enable enhancement of riparian habitat over three years along the Nicola River System.
- Publish a report on status including ownership of 398 wetlands in the Fraser Lowland.
- Participate in municipal land use planning in Delta, Richmond and Surrey.
- Complete Habitat Landscape Models for Richmond, Pitt Polder, and Sumas River by G&C agreement with Ducks Unlimited (Canada).
- Continue to provide advice to municipalities and regional districts regarding zoning and development applications with potential to affect migratory bird habitat.
- Cost share position with Federation of B.C. Naturalists to contact Greater Vancouver Regional District city planners concerning environmentally sensitive areas.
- Under Vancouver International Airport compensation fund, engage in stewardship programs

with farmers to enhance raptor and songbird habitat.

- Participate, with Province of BC, and the Delkatla Sanctuary Society and Committee, in a joint project to restore critical bird habitat at the 127-hectare Delkatla Wildlife Sanctuary, Queen Charlotte Islands. The sanctuary is managed by the Village of Masset.
- Negotiate an agreement to coordinate management of District of North Vancouver conservation lands located adjacent to the Maplewood Wildlife Conservation Area.
- Continue partnership with provincial and regional governments and the Conservation Data Centre to inventory rare and endangered ecosystems along the east coast of Vancouver Island.
- Participate in regional government initiatives to manage growth and maintain the wildlife/ecosystem diversity (Capital and Nanaimo Regional Districts).

Prairie and Northern Region

- Participate on the Edmonton Natural Areas Advisory Committee, a group of regulators, advisors, and developers which assists the city of Edmonton Planning Commission in the preservation of natural areas within zones to be developed. Habitat specialists also advise provincial bodies and landowner groups in the effective maintenance of wildlife habitat in rural areas.

Ontario Region

- Finalize the Nature Conservancy of Canada acquisition of the Canadian-Pacific (CP) marshland at Dunnville on the Grand River, for the Eastern Habitat Joint Venture (EHJV) program. (January, 1994). Develop a management plan for the property through a committee including EHJV partners (CWS, OMNR, Ducks Unlimited), Grand River Conservation Authority (title holder) and local groups.
- Develop the Implementation Plan for the first Great Lakes Wetland Conservation Action Plan in the lower Great Lakes.
- Dependent on availability of DOE Cleanup Fund funding, continue habitat projects at Oshawa, Dunnville, Long Point, Rondeau Bay and Lake St. Clair.
- Continue crop damage prevention program, and draft a fact sheet dealing with the problems of resident Canada Geese in southern Ontario, with emphasis on crop depredation. This initiative will meet CWS objectives and will be undertaken in cooperation with the Agriculture Green Plan 3W Program (Wetland-Woodlands-Wildlife).
- Prepare a "Wildlife Best Management Practices" book as part of a larger sustainable agriculture series, through management of the 3W Program (Wetlands-Woodlands-Wildlife), and in collaboration with other agencies and organizations (agriculture and wildlife) .
- Continue to advise on habitat rehabilitation projects in Areas of Concern around the Great Lakes (October 1994).

Quebec Region

- Continue to work in collaboration with the Nature Conservancy of Canada and Wildlife Habitat Canada in the St. Lawrence Action Plan Phase II (SLAP II) and the Eastern Habitat Joint Venture (NAWMP). CWS/QR intends to work with other NGOs in the SLAP II until

1997-98.

- . Conduct Montreal urban park avifauna study for wildlife management purposes.
- . Conduct ornithological diversity study in city parks of Quebec urban community.
- . Conduct a resource and diversity study on Lower Saint Lawrence private islands (birds, insects, plants, reptiles and amphibians).
- . Conduct assessment of peat bog contribution to local and regional ecological diversity.
- . Undertake identification of high potential zones for waterfowl in Quebec southwestern agricultural areas and identification of declining bird habitats in the southwest of Quebec (Blue-winged Teals) in order to recommend zoning, agricultural practices modification measures or sites for private stewardship projects.

Atlantic Region

- . Provide advice and support to the Town of Sackville for the operation and management of the Sackville Waterfowl Park and provide annual scientific monitoring and study of the aquatic ecosystem.
- . Continue participation in the Eastern Habitat Joint Venture stewardship programs in all four Provinces, through which contributions are made to enhancement and maintenance of wetlands located on municipal and private lands.
- . Provide advice and information from the Maritimes Wetlands Inventory to municipal planning offices.
- . Provide on-site investigation and advice regarding problems caused by migratory birds at municipal landfill sites, airports and to agricultural growers (e.g. blueberry).

Headquarters

- . Continue to provide advice to municipalities re purple loosestrife control strategies. (Ongoing since 1991)
- . Produce a report, with the North American Wetlands Conservation Council of Canada, on a national review of the use of wetlands for wastewater treatment, being conducted by a consultant. (Fall 1994)

SUB-OBJECTIVE 5: To support the maintenance or enhancement of the productivity of marine wildlife habitats.

Strategy 5: CWS will contribute to the maintenance or enhancement of the productivity of marine wildlife habitats.

Pacific and Yukon Region

- . Through the Nestucca Trust Fund, continue to press for improvements in our ability to protect southwestern Vancouver Island marine and coastal habitats from the impact of oil spills and develop new techniques for responding to and measuring habitat losses and other impacts of oil spills. (1994)

- . Continue to participate in the development of a Marine Protected Areas Strategy in B.C.
- . Through the Washington - B.C. Environment Agreement and Georgia Basin Initiatives develop a response on marine protected areas for the Science Panel.
- . Continue to participate in development of a Coastal Resource Management Strategy.
- . Continue development of a marine bird conservation strategy.
- . Complete a review of the status and ecology of marine birds of the Queen Charlotte Island (December 1994).
- . Identify and rank significance of marine areas important to migratory birds for Vancouver Island and Lower Mainland Protected Areas processes.
- . Select and start program for marine ecological assessment and monitoring sites in the Strait of Georgia.

Prairie and Northern Region

- . Fund the completion of the seabird registry for the eastern arctic. The registry will summarize current information about seabird breeding sites in the area. This will provide a much-needed overview of distribution and abundance of eastern Arctic seabirds and will help begin the identification of Key Marine Bird Habitat Sites in the north.
- . Continue to lead the initiative for the proposed first marine National Wildlife Area at Isabella Bay (Igalirtuuq) for critical bowhead whale habitat, together with DFO, the local community, and other agencies. (Ongoing)

Ontario

- . Continue to work with provincial counterparts and Parks Canada to designate Lake Superior as a protected area.

Quebec Region

- . Continue research to determine the importance of fish species for marine birds' nutrition on the Lower North Coast of the St. Lawrence River, and the possible impact of fish exploitation on marine birds conservation.

Atlantic Region

- . Assessment and advise on planned developments in marine areas.
- . Operation and updating of the Seabird Colony Registry.
- . Redraft the Concept Plan for an International Seabird Designation Program. (November)
- . Finalize the Newfoundland-Labrador Murre Management Plan.
- . Incorporate migratory bird interests into aquaculture decision making.
- . Obtain Newfoundland Cabinet approval for two Seabird Ecological Reserve Management Plans.

- . Develop a Marine Wildlife Strategy for critical migratory bird habitats in the Atlantic Region. (Fall 1994)
- . Complete and use a Geographic Information System-based marine bird gazetteer.
- . Investigate marine protection options for The Gully.

Headquarters

- . Pursue amendments to the Canada Wildlife Act to allow for the establishment of marine protected areas. (June 1994) (See Strategy 1.1)

SUB-OBJECTIVE 6: To protect, maintain, enhance or rehabilitate habitat for endangered species under federal jurisdiction.

Strategy 6: CWS will contribute to the protection, maintenance, enhancement or rehabilitation of habitat for endangered species.

Pacific and Yukon Region

- . Establish recovery team for the Okanagan population of the Yellow-Breasted Chat.
- . Implement Marbled Murrelet Recovery Plan.
- . Provide advice through Spotted Owl recovery team.
- . Complete National Recovery Plan for White-headed Woodpecker and Sage Thrasher. (March 1994)

Prairie and Northern Region

- . Devise option strategy for water management at Lake Diefenbaker where Piping Plover nest.
- . Study abundance and habitat relationships of Baird's Sparrow at Suffield NWA.
- . Pursue direct ecosystem approach of prevention/protection, an inventory of the status of federal lands, and direction of some effort to reptiles, amphibians and plants.
- . Continue to review environmental assessment-related initiatives with endangered species/habitat protection as a key input. All CWS project work is reviewed in a broad spectrum screening function, and projects referred from other agencies or departments are reviewed for the delivery of specialist advice.
- . Continue work with the U.S. Whooping Crane Recovery Team, including review of experiments at Grays Lake to integrate fostered crane chicks into the wild population. Monitoring of the breeding grounds in the region provides valuable numerical data for the evaluation of recovery efforts. (February 1994)
- . Participate through an inter-agency working group to carry on important recovery-protection work with the Prairie population of the COSEWIC-listed Piping Plover. (April)
- . Study wintering grounds of Cumberland and Yorkton Sandhill Cranes as potential wintering grounds for Whooping Cranes.

- . Continue monitoring of Peregrine Falcon nesting sites across the country.
- . Submit final version of the Swift Fox recovery plan for approval by RENEW.
- . Complete the third draft of the Mountain Plover recovery plan.
- . Continue habitat use and movement studies of the Peary Caribou by radiotelemetry.
- . Produce first draft of the Eskimo Curlew recovery plan, if a Canadian population proves to exist.

Ontario Region

- . Ongoing maintenance of secure Piping Plover habitat at Long Point NWA.
- . Implement recovery actions for 6 species by 2000, to which CWS is committed in the Canada-Ontario Agreement, in partnership with other federal government departments and provinces.
- . Through the Loggerhead Shrike recovery team, continue to study shrike habitat to determine whether the population is stable or continues to decline.
- . Implement the Henslow's Sparrow Recovery Plan.
- . Draft a management plan for Henslow's Sparrow habitat enhancement. (By March 1995)
- . Through the Henslow's Sparrow recovery team, produce a fact sheet about grassland birds at risk.
- . Survey the habitat (young jack pine) of the Kirtland Warbler, as recommended in the approved recovery plan.

Quebec Region

- . Prepare recovery plans for the Horned Grebe and Yellow Rail.
- . Contribute to the implementation of the Harlequin Duck (Eastern population) recovery plan.
- . Implement the Peregrine Falcon and Piping Plover recovery plans (Ongoing).
- . The threatened species (e.g. Piping Plover, Roseate Tern) habitat management plan at Îles-de-la-Madeleine will be ongoing.

Atlantic Region

- . Seek approval by RENEW of the Harlequin Duck (Eastern population) Recovery Plan. (June)
- . Conduct survey and monitoring activities for both Peregrine Falcon and Piping Plover. (July)
- . Eastern Cougar Recovery Plan to be drafted.
- . Coordinate (internationally) surveys for Harlequin Ducks (Eastern population) and survey Bay of Fundy sites. (January - February 1995)
- . Lead the initiative in developing the concept of a Conservation Data Centre for the Atlantic

Provinces.

- . Contribute to Roseate Tern recovery through recovery team.
- . Participate with Headquarters and Prairie and Northern Region in drafting a new Piping Plover recovery plan.

Headquarters

- . Development of a federal policy or legislation on endangered species will be done as part of the Canadian response to the Canadian Biodiversity Strategy. The Habitat Conservation Program will input as required with respect to habitat requirements in the policy/legislation. (1994-95 and onwards)
- . Through the Endangered Species Recovery Fund in 1994-95, CWS-HQ will provide half the funding for the following projects designed to better understand endangered species habitat requirements or undertake habitat recovery actions.
 - Study of the ecology of the Green Dragon in Ontario
 - Study of the habitat relationships of the Baird's Sparrow in Saskatchewan
 - Effects of logging activities on Vancouver Island Marmot (B.C.)
 - Conservation of South Okanagan Grassland (B.C.)
 - A vegetation study of the Karner Blue and Frosted Elfin butterflies' habitat (ON)
 - Habitat use of harbour porpoise in the Bay of Fundy (N.S.)
 - Development of biological control of American Chestnut blight (ON.)
 - Operation Burrowing Owl (SK)
 - Nest site selection in Blandings Turtle (N.S.)
 - Demography of four threatened plants of Southern Québec
 - Ecological study and management plan for the Maritime Ringlet Butterfly (N.B.)
- . Develop International Recovery Plans for shared species designated as threatened or endangered e.g. Whooping Crane.
- . Co-publish, with Wildlife Habitat Canada, a report on the habitat requirements of endangered species.

OBJECTIVE II: To encourage and support the habitat conservation initiatives of Non-Government Organizations (NGOs).

Strategy II (7): CWS will actively encourage and support the habitat conservation initiatives of NGOs.

Pacific and Yukon Region

- . Participate in gap analysis for protected areas in B.C.
- . Sponsor Federation of B.C. Naturalists to inform municipalities in lower Fraser Valley of important wetlands in their jurisdictions, to encourage protection.
- . Contribute to conservation land purchases on the coast of B.C. via the Pacific Coast Joint Venture and the Pacific Estuary Conservation Program.
- . Through 3-year Environmental Innovations Program contract, support University of B.C. and

the B.C. Federation of Naturalists to develop a public access decision support tool for protected areas planning in Southern Okanagan Basin. (Initiated June 1994)

- Co-publish, with the British Columbia Ministry of Environment, Lands and Parks and the Royal British Columbia Museum, volumes 3 and 4 of "Birds of British Columbia" -- a habitat analysis for all of the passerine bird species of the province based on NGO data contributions. (March 1995)

Prairie and Northern Region

- Assign values to sites relating to their importance to wildlife based on sites identified in a 1993-94 inventory of natural sites within the City of Winnipeg, conducted in cooperation with the Manitoba Naturalist Society.

Ontario Region

- Through the Eastern Habitat Joint Venture, continue working with NGO partners to secure critical habitat.
- Continue to work with NGOs in the implementation of the Great Lakes Wetlands Conservation Action Plan (July 1994).
- Continue to participate in the Long Point Biosphere Reserve Committee.
- Continue to participate in sustainable agriculture initiatives (e.g. Best Management Practices, Environmental Farm Plans) with NGO's.

Quebec Region

- Continue to offer support (financial and technical) to NGOs' conservation initiatives by way of the St. Lawrence Action Plan and the Green Plan. Organize a provincial workshop for NGOs on habitat conservation issues.
- Support private stewardship and habitat protection projects at Baie Missisquoi, the Malbaie lagoon (Gaspé), in Lanoraie, in the archipelago of Berthier-Sorel and on the Magdalen Islands, on both financial and scientific levels.
- Continue to work closely with the Fondation de la faune du Québec, Ducks Unlimited and Wildlife Habitat Canada within the Eastern Habitat Joint Venture.
- Focus, outside of the St. Lawrence region, on opportunities of conservation other than acquisition.

Atlantic Region

- Pursue close liaison and cooperation with Ducks Unlimited Canada and Wildlife Habitat Canada for the delivery of the Eastern Habitat Joint Venture under the North American Waterfowl Management Plan. (Ongoing)
- Further develop the concept of an Atlantic Region Conservation Areas Network.
- Expand the linkages with the Nature Conservancy for the conservation of shorebird habitats.
- Facilitate the installation of an Atlantic Conservation Data Centre in close cooperation with the Nature Conservancy of Canada, The Nature Conservancy (USA), provincial agencies and

NGOs in the Region. Sponsor a visit to an operating Conservation Data Centre (May), and draft terms of reference for a contract to examine the merits of a Conservation Data Centre in the region. (July)

Headquarters

- . Provide semi-annual review of Wildlife Habitat Canada (WHC) program proposals (ongoing), participate in WHC meetings (ongoing), provide advice on a request basis to WHC. (Ongoing)
- . Continue to provide funding support to the Canadian Wildlife Federation's (CWF) Habitat 2000 Program, which is reviewed on an annual basis; and provide technical expertise for a Technical Review Committee with the CWF for its Habitat 2000 Program. This is a cooperative program which provides information and funding to schools and groups (e.g. Boy Scouts) to undertake habitat-related projects, with an emphasis on enhancement and creation. (Ongoing)
- . Continue discussions with the Nature Conservancy of Canada (NCC) towards renewing the 1985 DOE-NCC agreement. The agreement aims to facilitate an accelerated and more effective securement of lands required for additions to NWAs and National Parks. A pilot study is currently being developed with the NCC, related to acquiring sites for the Western Hemisphere Shorebird Reserve Network. (October)
- . Continue to provide the national secretariat and funding support to the Canadian Council on Ecological Areas, which undertakes interagency research on the representivity of ecological areas. (Ongoing)

OBJECTIVE III:	To ensure that the environmental impacts on habitat from new initiatives and existing programs and policies are minimized.
Strategy III (8):	CWS will contribute to the reduction of negative impacts on habitat from new initiatives and existing programs and policies.

Pacific and Yukon Region

- . Develop and maintain databases of migratory bird populations and population trends in selected areas in the Yukon which may be subject to environmental impacts in the foreseeable future.
- . In cooperation with the Kaska-Dena Tribal Council, determine relationship between forestry practises and forest birds in the SE Yukon.

Prairie and Northern Region

- . Contribute to environmental assessment activities through the Regional Environmental Review Committee, a multi-agency body that reviews and assesses proposed projects and activities in NWT to ensure their environmental viability. (Ongoing)

Ontario Region

- . Continue participation on the regional Environmental Assessment Coordinating Committee (EACC) that reviews and assesses proposed projects for their environmental suitability.

Quebec Region

- . Initiate a conservation program (buffer zone) based on the landscape ecology approach in the Berthier - Sorel Archipelago and Baie-de-l'Île Verte National Wildlife Area. (Ramsar sites).
- . Continue to participate in the Environmental Assessment Review Process for the Great Whale River development project, currently under evaluation in the Quebec Region.

Atlantic Region

- . Ensure no loss of habitat or habitat functions within the Cape Jourimain NWA as a result of the Fixed Link project to P.E.I.
- . Implement the Federal Wetlands Policy in the Atlantic Region.
- . Screen all CWS projects.
- . Provide review comments and advice on over 100 proposed developments annually that are referred to CWS by the Environmental Assessment Coordinating Committee. (Ongoing).

Headquarters

- . Continue efforts to influence all levels of government policy that affect the achievement of the goals outlined in the NAWMP. These policies include agriculture, forestry, water, trade, tax structure, and other social or economic development policies that impact Plan goals or opportunities.
- . Continue, as required, to play a "specialist role" by providing information and advice to the proponent in federal environmental assessments, whether that proponent is another federal department or a member of the private sector. (Ongoing)

OBJECTIVE IV:	To ensure that the environmental quality of wildlife habitats is maintained or enhanced.
Strategy IV (9):	CWS will contribute to the maintenance or enhancement of the environmental quality of wildlife habitats, particularly for migratory birds.

Pacific and Yukon Region

- . Continue program to monitor persistent organochlorine compounds in the eggs of fish-eating birds in the Strait of Georgia and selected river basins in B.C. and Yukon.
- . Continue research with universities to study effects of persistent chlorinated hydrocarbons on wildlife.
- . Continue study with BC Ministry of Environment, Lands and Parks to monitor lead and steel shot in waterfowl and wetland habitat, before and following implementation of a total ban of the use of lead shot for waterfowl hunting in B.C.
- . Continue studies to investigate effects of agricultural pesticides on wildlife in intensive farming areas of B.C.

- . Initiate studies to examine the secondary poisoning risk associated with eradication of rats on seabird colonies.
- . Initiate study in cooperation with U.S. Fish & Wildlife Service to determine possible role of cadmium in decline of sea ducks (scoters, eiders) in Alaska and Yukon.
- . Continue work on effects of climate change on the Porcupine Caribou Herd.

Prairie and Northern Region

- . Tree Swallow as Bio-indicators: Continue field work to attempt to relate the health and chemical body burden of nesting birds and their young with the chemistries of water and of emergent food source insects.
- . South Tobacco Creek, Manitoba. A group of representatives from Prairie Farm Rehabilitation Administration (PFRA), CWS, and Deerwood Soil and Water Conservation Group established a monitoring site where all 1994 runoff will be monitored for nutrients, pesticides, suspended sediments, bacteria and discharge. The resulting data is expected to provide help in answering questions of effects of zero till on the aquatic system and the contribution of nutrients and pesticides by current farming practices. (May 1994).
- . Last Mountain Lake Bird Observatory. Continue to band songbirds in an on-going Canada-wide program to monitor the numbers that migrate to breeding grounds in boreal forests. The program was initiated to try to identify causes of population decline and the affected species. (May 1994).

Ontario Region

- . Continue to assess reproduction and sublethal effects in wildlife in areas of high pesticide use.
- . Contribute to the DOE sensitivity mapping for the Great Lakes by delineating critical areas for migratory birds in the St. Clair/Detroit River, Lake Erie, Niagara River and western Lake Ontario.
- . Continue to monitor levels of toxic contaminants and their effects on fish-eating birds and other wildlife around the Great Lakes, and publish the results.

Quebec Region

- . Continue studies to select biological indicators for the health of the Saint Lawrence, specifically the Great Blue Heron and the Black-crowned Night Heron.
- . Continue the work on the Osprey and of the studies on the level of cadmium and mercury in birds and mammals.
- . Continue the pulp and paper mill effluent study, but only on mergansers.
- . Implement a bird, reptile and amphibian census project, to determine relations with the levels of pesticides and fertilizers in the Chaudière River basin.
- . Study wildlife living close to mining residues in order to assess the degree of contamination.

Atlantic Region

- Conduct periodic surveys of selected sites to monitor trend data in contaminant levels.

Headquarters

- Continue participation with Forestry Canada on international model forests program. (Ongoing)
- Fund an agreement with Natural Resources Canada for the development of a biological inventory database system, which will include information on invasive plants and endangered plants found in National Wildlife Areas, and other information.
- Continue to provide advice to Agriculture Canada's Environmental Indicators Working Group, particularly as pertains to the development of a "wildlife habitat indicator" using wetland data and monitoring.

OBJECTIVE V: To contribute to the conservation of wildlife habitat internationally.

Strategy V (10): CWS will contribute to the conservation of wildlife habitat internationally.

Pacific and Yukon Region

- Obtain official designation for Creston Valley Wildlife Management Area as a Wetland of International Importance through the Ramsar Convention, in cooperation with the Province of BC. (February 1994)
- Report on the value of Colombia's system of Natural National Parks as habitats for long-range migrants from North America and provide enhancement advice to INDERENA, the Colombian management agency. (March 1994).
- Continue coastal ecosystem research in Alaska, Mexico, and Panama with local universities and governments.

Prairie and Northern Region

- Obtain the designation of the Quill Lakes area of Saskatchewan as an International Reserve under the Western Hemisphere Shorebird Reserve Network. The area is an essential seasonal home for more than 150,000 shorebirds, and in habitat for several endangered species. (May 1994)
- Obtain the designation of Last Mountain Lake NWA as a Regional Reserve under the Western Hemisphere Shorebird Reserve Program (Sept. 1994)

Ontario Region

- Continue to participate on the Long Point Biosphere Reserve committees.

Quebec Region

- Write and submit to government and private partners for approval, a document proposing Lac Saint-Pierre Region as a Ramsar site.

Atlantic Region

- . Administer the Ramsar Convention in the Region.
- . Produce a regional document on the Ramsar sites in the Atlantic Region. (August)

Headquarters

- . Continue to provide the international Secretariat to the Conservation of Arctic Flora and Fauna initiative (CAFF). Finalize the Canadian input to CAFF Report No. 1 "The State of Protected Areas in the Circumpolar Arctic 1994" (8 countries) which will be tabled at the meeting of the International Working Group of CAFF in September 1994.
- . Contribute to the development of a consultation draft of the Canadian Biodiversity Strategy and to the development of a DOE plan for implementing the Strategy.
- . Continue working with other government departments and countries to implement co-operative programs on species shared with the southern United States, Latin and Central America, including co-operative studies on wintering habitats for neotropical migratory birds and endangered species. Projects which will receive funding from CWS include: Mexican shorebird atlas (to be completed in 1995-96); ecological studies of shorebirds and benthic communities in Argentina, wetlands of Peru program, migrant and resident forest birds of Cuba, neotropical migrants in mangrove forests of Costa Rica and training for Latin American biologists.
- . Support a proposal by Wetlands for the Americas and Nature Conservancy of Canada to expand the Western Hemisphere Shorebird Reserve Network (WHSRN) in Canada. The goal is to have 5 new sites in Canada.
- . Conclude an agreement with the North American Wetlands Conservation Council (NAWCC) (Canada) to coordinate the Canadian Ramsar Network and distribute Ramsar materials nationally (Ongoing); expand distribution of Ramsar materials in Canada through the Ramsar network plus publish articles on the relation of Canada's Federal Policy on Wetland Conservation to Ramsar; provide advice to foreign countries on wetland initiatives. (Ongoing)
- . Facilitate Canada's signing of the 1994 Update to the North American Waterfowl Management Plan, entitled "Expanding the Commitment". The Update is the accord which renews the Plan for another five years (1994-1999) for Canada, the United States and Mexico. The three countries thereby renew their commitment towards restoring North America's waterfowl and wetland resources.

OBJECTIVE VI:	To support and promote the development of scientific expertise to improve the technical base for habitat conservation.
---------------	--

Strategy VI (11):	CWS will maintain and where necessary upgrade its scientific capabilities vis-a-vis wildlife habitat conservation.
-------------------	--

Pacific and Yukon Region

- . Lead in the identification and quantification of critical nesting habitats for Marbled Murrelets. (August 1994)

- Continue ongoing research in coastal marine and forest ecosystems to determine migratory birds habitat interrelationships.

Prairie and Northern Region

- Participate in the Prince Albert Model Forest initiative, and undertake research on a number of issues, such as the effects of BtK (*Bacillus thuringiensis* var *Kurstake*) spraying on forest songbirds. This research represents the first study on this topic for the Boreal Mixed Wood Zone of Canada.
- Establish an MOU with Manitoba Natural Resources, the Nature Conservancy of Canada and the Manitoba Museum of Man and Nature to begin a conservation data centre for Manitoba, a centralized agency for information about Manitoba's natural diversity. (March 1994)

Ontario Region

- Cooperate with the University of Guelph in the testing of biological control for purple loosestrife.
- Continue implementation of the marsh bird monitoring program, with emphasis on Great Lakes wetlands.
- Establish amphibian monitoring as part of the marsh monitoring program in the Great Lakes Basin.

Quebec Region

- Perform spatial analysis on the information contained in Landsat-TM images regarding the quality of habitats.
- Support a study of the benefits of a rest-rotation grazing system for waterfowl and other field-nesting birds, in the Varennes archipelago.

Atlantic Region

- Contribute annually to a major evaluation project at the Belleisle EHJV project site in Nova Scotia.
- Develop an integrated project on constructed wetlands for wastewater treatment at River Hebert, Nova Scotia. (Summer 1994)

Headquarters

- Administer the University Research Support Fund (URSF), with the goal that scientific knowledge concerning wildlife and its habitat is enhanced by providing financial assistance to support graduate student research at Canadian universities. (Annual, ongoing)
- Support the development of three contract reports as follow-up to the national workshop on wetland data integration, sponsored by CWS and the North American Wetlands Conservation Council of Canada. Reports will be: a) a wetland data user's survey; b) study on the use of digital topographic data for wetland inventory in northern regions; and c) analysis of integration of wetland inventories in southern Canada. (July 1994)

OBJECTIVE VII: To ensure that the importance of wildlife habitat in Canada is promoted.

Strategy VII (12): CWS will actively promote the importance of wildlife habitat in Canada.

Pacific and Yukon Region

- . Under the Greenfields program, produce a video and brochure on wildlife and farming in the lower Fraser River basin.
- . Complete two projects this year demonstrating the conservation and/or restoration of wetlands in the interior Fraser River basin. (1994, 1995, 1996)
- . Produce a display in cooperation with the British Columbia Ministry of Agriculture, Food and Fisheries, highlighting the importance of farming on the Fraser River delta to the maintenance of migratory bird habitat.
- . Produce displays for opening the Pacific Wildlife Research Centre at Delta.
- . Annually provide extension services to ranchers in interior Fraser River basin to improve ranchers' understanding of wetland values, reduce impact of grazing on wetlands, and increase wetland productivity for wildlife. (1994, 1995, 1996)
- . Provide technical information, photographs, and other materials on important migratory bird habitats for use by the Wildlife Viewing Program of the Yukon Territorial Government.
- . Through the Trumpeter Swan Society, promote the presence and importance of Trumpeter Swan breeding and migration areas in Yukon and British Columbia.
- . Publish a pamphlet on maintaining biodiversity in B.C.'s forests (March 1994) and finalize pamphlet on the importance of downed woody debris. (December 1994)

Prairie and Northern Region

- . Produce a travelling display for use in Arctic communities (English/Inuktitut). Storylines will be: a) management of migratory birds in Nunavut; and b) CWS protected areas in the North.
- . Publish, in Inuktitut, about 20 arctic-related brochures from the Hinterland Who's Who series.

Ontario Region

- . Finalize a pamphlet for Big Creek NWA.
- . Continue to manage the Agriculture Canada 3W program (Wetlands-Woodlands-Wildlife), including the information technology transfer component.
- . Continue to participate in the Best Management Practices and Environmental Farm Plan programs to ensure that wildlife habitat conservation is incorporated in sustainable agriculture.
- . Finalize a SOE Fact Sheet on Ospreys in the Great Lakes basin.
- . Produce a fact sheet on the Great Lakes Wetlands Conservation Action Plan, jointly with

Ontario. (October 1994)

Quebec Region

- . Support local NGO work so as to promote public awareness in the Lac Saint-François NWA.
- . Prepare an information leaflet on la Baie de l'Île-Verte NWA.
- . Produce a video presentation on the various NWAs found in Quebec and their role in biodiversity conservation.
- . Continue to publish a newsletter, "Habitats", that informs NGOs and land managers of issues related to habitat conservation.

Atlantic Region

- . Produce a summary brochure on Wetlands of the Maritimes that encapsulates data from the Maritimes Wetlands Inventory. (Fall 1994)
- . Publish "State of the Atlantic Region Protected Areas" report and map in association with other members of the Atlantic Region Protected Areas Working Group. (September)
- . Through the sponsorship of the New Brunswick Federation of Naturalists establish a major Wetlands Interpretative Display in the public exhibit and foyer areas of the new CWS Headquarters building in Sackville, N.B.
- . Continue planning for the second national wildlife habitat workshop, to be held August 1995 in Sackville, New Brunswick. The Provinces of New Brunswick and Nova Scotia and Wildlife Habitat Canada are co-hosting the workshop with CWS.

Headquarters

- . Cooperate with the North American Wetlands Conservation Council of Canada and the Harmony Foundation to develop "Ecoscope", a wetland education program for highschools in North America, with final version to be co-published in 1994.
- . Produce, with Natural Resources Canada, a Canadian map showing national wildlife areas and migratory bird sanctuaries. (August 1994)
- . Participate, with State of the Environment Reporting and Natural Resources Canada staff, to develop the content for a protected areas thematic poster-map, scheduled for 1995.
- . Publish and distribute a brochure on "National Wildlife Areas and Migratory Bird Sanctuaries" as part of the Hinterland Who's Who series. Produce a public service announcement for television based on this brochure, which will be aired across Canada.
- . Produce a National Wildlife Areas publication for public distribution, containing descriptions of NWAs, and other information.
- . Expand wildlife socio-economic studies to include habitat values.
- . Lead the development of Environment Canada's Biodiversity Science Assessment (October 1994).

APPENDIX to Part C - Reports**

** For additional information, consult Canadian Wildlife Service Publications -- a cumulative listing of headquarters and some regional publications. (Telephone 819-997-1095 for a copy of the listing).

Pacific and Yukon Region

- . Environment Canada, B.C. Ministry of Environment, Lands and Parks and Royal B.C. Museum. Volumes 3 and 4. Birds of British Columbia: a habitat analysis (for March 1995).
- . Harding, Lee and E. McCullum (eds.). 1994. Biodiversity in British Columbia: Our changing environment. Environment Canada, Canadian Wildlife Service, Pacific and Yukon Region, B.C. 426 p.
- . Lashmar, Murray. 1994. Dept. of National Defence Lands Southeast Vancouver Island: Initial Evaluation of Knowledge and Notes from a Workshop. Canadian Wildlife Service, P.O. Box 340, Delta, B.C. V4K 3Y3.
- . McPhee, M. and P. Ward. 1994. Wetlands of the Fraser Lowland: Ownership, Management and Protection Status, 1992. Technical Report Series 200, Canadian Wildlife Service, Pacific and Yukon Region, B.C.
- . Occasional Paper on the status and ecology of selected estuaries Strait of Georgia. (Fall 1994)
- . Riparian Areas: Their Science and Management. Workshop proceedings. (for March 1995)

Prairie and Northern Region

- . Canadian Wildlife Service, Western and Northern Region. 1994. Seven Year Accomplishment Report: 1985-86 to 1992-93.
- . Canadian Wildlife Service. Hinterland Who's Who Series. Produced 4 brochures in Inuktitut: Snowy Owl, Snow Goose, Muskox, Arctic fox. (Fall 1994)
- . CWS. 1994. Peace Athabasca Delta Natural and Modified Flow Modelling.
- . Gossen, J.P., P. Blanco, J. Sirois and H. Gonzalez. 1994. Water bird and shorebird counts in the province of Matanzas, Cuba. Canadian Wildlife Service Technical Report Series No. 170. Canadian Wildlife Service, Prairie and Northern Region, Edmonton.
- . Gratto-Trevor, C.L. and H. L. Dickson. 1994. Confirmation of elliptical migration in a population of Semipalmated Sandpipers. Wilson Bull. 106:78-90.
- . Morrison, R.I.G., A. Bourget, R. Butler, H.L. Dickson, C. Gratto-Trevor, P. Hicklin, C. Hyslop and R.K. Ross. 1994. A preliminary assessment of the status of shorebird populations in Canada. Canadian Wildlife Service Program Note No. 208. 19pp.
- . Telfer, E.S. 1994. Browse and herbage yield following clearing in Alberta Montane Aspen Zone. ALCES 29:55-61. (April 1994)
- . Trotter, G.C., D.C. Duncan and S.C. Lee. 1994. Electric predator fences delay mallard brood movements to water. Wildlife Society Bulletin 22(1):22-26.

Ontario Region

- CWS. Key shorebird areas on the Ontario coasts of James and Hudson Bays. (in preparation)
- CWS. 1994. An Atlas of Contaminants in Eggs of fish-eating Birds of the Great Lakes (1989-92). Volume I: Accounts by Species and Locations. CWS Technical Report Series #198. Volume II: Accounts by Chemical. CWS Tech. Report Series #194. (April 1994)
- CWS. 1994. The Rise and Fall of Osprey Populations in the Great Lakes Basin. Fact sheet.

Quebec Region

- Atlas des oiseaux nicheurs du Québec. (in preparation) Publié par le SCF en collaboration avec l'Association québécoise des groupes d'ornithologues, la Société québécoise de protection des oiseaux, le Ministère de l'Environnement et de la Faune, la Fondation de la Faune du Québec, Hydro-Québec, le Mouvement des caisses Desjardins et Alcan. Volume de 1200 pages.
- Bélanger, L. and D. Lehoux, 1994. Nidification de la sauvagine dans les îles du fleuve Saint-Laurent. CWS Occasional report series (in press)
- Bélanger, L. and D. Lehoux, 1994. Use of tidal saltmarsh and coastal impoundments by Black Ducks and Mallards along the St. Lawrence Estuary. Can. Field Naturalist. (in press)
- Bonin, J., J.L. DesGranges, C.A. Bishop, J. Rodrigue, A. Gendron and J.E. Elliot. Comparative study of contaminants in the mudpuppy (Amphibia) and common snapping turtle (Reptilia) St. Lawrence River, Canada. (in Archives of Environmental Contamination and Toxicology).
- DesGranges, J.L., J. Rodrigue, B. Tardiff et M. Laperle. Exposition au mercure de Balduzads nichant sur les territoires de la Baie-James et de la Baie-d'Hudson. Série de rapports techniques, SCF - Région du Québec.
- Grenier, M., Bordage, D. et Plante N. La télédétection, un complément avantageux aux inventaires pour évaluer la répartition de la sauvagine sur de vastes territoires. Journal canadien de Télédétection.
- Phaneuf, D., J.L. DesGranges, N. Plante and J. Rodrigue. Contamination of Local Wildlife following a fire at a PCB warehouse in St-Basile-le-Grand, Québec. (in Archives of Environmental Contamination and Toxicology).

Atlantic Region

- Amirault, D.L. and P.W. Hicklin. 1994. The Maritimes Shorebird Survey - 20 years of shorebird population monitoring. Paper presented at the Second International Conference on Science and the Mangement of Protected Areas. May 16-20, 1994. (Proceedings in preparation)
- Environment Canada, Canadian Wildlife Service (Atlantic Region). 1994. Ramsar Sites of Atlantic Canada. ISBN CW 66-130/1994 E 0-662-21499-4. (disponible aussi en français)
- Hanson, A., C. Ellingwood, J. Kerekes and A. Smith. 1994. Sackville Waterfowl Park, Sackville New Brunswick: Baseline characterization towards long-term monitoring. Hydrobiologia 279/280: 521-524.

- . Hanson, A. and A. Smith. 1994. The Sackville Waterfowl Park: A case study in community cooperation. Proceedings of International Wetland Symposium: Improving Wetland Public Outreach, Training and Education, Interpretation. Association of State Wetland Managers Inc., N.Y.
- . MacKinnon, C.M., D.L. Amirault and R.J. Hicks. 1994. A Review of Federal Migratory Bird Sanctuaries in Southwestern Nova Scotia. Technical Report Series No. 206. Canadian Wildlife Service, Atlantic Region.

Headquarters

- . Burns, S. and L. Warren. 1994. National Wildlife Areas and Migratory Bird Sanctuaries. Hinterland Who's Who Series.
- . Environment Canada. 1994. Biodiversity in Canada : A Science Assessment for Environment Canada.
- . Environment Canada, Canadian Wildlife Service. 1994. Policy Statement on Nomination and Designation of Canadian Ramsar Sites.
- . Environment Canada, Ducks Unlimited Canada and the National Atlas of Canada. 1994. «Wetlands». Map.
- . Lynch-Stewart, Pauline. 1994. Implementing Wetland Policy: A Guide for Federal Land Managers (draft July 1994).
- . Pries, J. 1994. Management of wetlands for wastewater and stormwater treatment in Canada. Environment Canada, NAWCC(C) and CH2M Hill Engineering Ltd. NAWCC(C) Report 1994-1.
- . Rubec, C.D.A. (compiler). 1994. Management of Canadian Ramsar Sites. Environment Canada, Canadian Wildlife Service and NAWCC(C).
- . Snell, E. et al. 1994. A Catalogue of Databases Related to Ontario Agro-Ecosystems. CWS Technical Report 195.

Think recycling!



*Printed on
recycled paper*